XXVII IFSO World Congress

2024

Abstract Book

Dear Friends and Colleagues,

Welcome to the **27th IFSO World Congress** in the vibrant city of Melbourne, Australia!

We are thrilled to host you in a city renowned for its cultural diversity, vibrant art scene, museum & galleries, coffee culture, sport events and food/wine culture.

Melbourne's blend of cutting-edge technology and a rich tapestry of cultures offers a unique backdrop for our 27th IFSO world congress. As you participate in the congress, we encourage you to explore Melbourne's iconic landmarks, indulge in its culinary delights, and experience the warmth of Australian hospitality. Engage with your peers, share your insights, and be inspired by the innovative ideas that will shape the future of metabolic/bariatric surgery.

The program committee and local organizing team, led by the Congress Presidents Ahmad Aly & Harry Frydenberg, put together a fantastic program, full of highlights and surprises including hot-topic debates, bariatric jeopardy-quiz video- and best abstract session.

Before the Congress take the opportunity to participate in one of the pre-congress Courses on OAGB&Gastric Bypass, Early Career Fundamentals, Revisional Surgery & Complications, Therapeutic Endoscopy, Robotic MBS, Integrated Health and the SCOPE School!

Thank you for joining us in this exciting journey. We look forward to a productive and enlightening congress, where together, we can make significant strides in improving the lives of those affected by obesity.

Welcome to Melbourne, and welcome to the 27th IFSO World Congress!

Warm regards,

Gerhard Prager

IFSO President

See you in Melbourne for IFSO 2024

We are excited and honoured to invite you "down under" for the XXVII IFSO World Congress in 2024. Set in the lands of traditional owners – the Wurundjeri Woi-wurrung and Bunurong Boon Wurrung peoples of the Eastern Kulin, Melbourne is a thriving modern city known for its laneways and cafes, vibrant entertainment and arts scene, sporting events and eclectic multicultural melting pot creating a sophisticated yet relaxed atmosphere in the worlds "most liveable city".

The theme for the congress is "Integration" – the integration of science and art of surgery, of technology and technique, of bench research and clinical care, of patient experience and shifting treatment goals with emerging therapies and integrated multidisciplinary care. We are excited to highlight program features of thought-provoking plenaries and bring focus to interdisciplinary sessions with our integrated health providers. Together we will Integrate what we have understood from the past, the best of the now and what the future will bring from every direction.

We look forward to hosting you with Melbourne's traditional warm hospitality and gateway to discover Australia.

A/Professor Ahmad Aly and Dr Harry Frydenberg AM

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Oral

1

10 year follow-up for sleeve gastrectomy and cohort comparison with OAGB. 3237 combined cases.

David Martin, Inken Martin

Background:
Longer-term data is still emerging for modern long tight sleeve gastrectomy (SG) and its direct comparison with OAGB.

Objectives:
To review a large volume cohort for safety, intermediate QAL / GIT & long term weight-loss outcomes for SG (antral resection / #29 bougie) and OAGB (BP limb 1.6-2.4m).

Methods:
An ethics approved Australian single surgeon 16 year prospective Upper GI database, including safety and weight loss outcomes, was analysed, & along with selected subset various GIT, QAL & comorbidity research studies performed during this period, was used for assessment of these operations.

Results:
2133 SG patients (mean BMI 44.4) and 1104 OAGB patients (mean BMI 46.2) were identified with adequate 10 year (SG) and 5 year (OAGB) follow-up data. Acute complication rates were < 2% with no acute re-operation and no pouch or anastomotic leak in either SG or MGB for a combined 1200 cases. Mean 5 year Total Weight loss (TBWL) (SG vs OAGB) at 5 years was 28.3% vs 33.5% (p=0.001) and excess weight loss (EWL) (SG vs OAGB) was 66.4% vs 71.7% (p=0.15). 10 year TBWL & EWL for SG was 25.3% (sd 9.1) & 63.3% (sd 25). For all years 1-5, OAGB had superior (p <0.05) TBWL but only for years 3 and 4 for EWL. At a median of 14 months patient satisfaction (94% SG, 98% OAGB (p = 0.14)), health scores, hunger control, and swallowing were the same but OAGB had better reflux control (p<0.001) but more loose bowels (p<0.001) & SG had more constipation (p<0.001) wrt prior to surgery. Diabetes remission was 90% OAGB vs 65% SG. 4 OAGB have been reversed - only 1 for nutritional issues.

Conclusion:
Modern SG and OAGB can be performed with high safety and excellent patient satisfaction with good long term weight loss and with similar outcomes excepting bowel function and diabetic remission. Techniques to achieve these outcomes will be discussed.

Oral

02

10 year results of Ileal interposition for diabetes patients with BMI 20—35kg/m2

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Background:
Duodenal Ileal Interposition(DII) was designed as a metabolic procedure for uncontrolled type-2 diabetes (T2D), irrespective of patient& weight; combined with a tailored sleeve gastrectomy (SG), and selective intra-abdominal sympathectomy (SIAS), it gave a synergistic control of glycemia and comorbidities.

Objectives:
To evaluate control of T2D, extent of weight reduction, and its durability at 10 years, along with nutritional status and any possible complications.

Methods:
This retrospective analysis of prospectively collected data of 132 patients with a follow-up of 1-12 years, with a single surgical team, underwent laparoscopic BMI-adjusted SG, along with interposition of an ileal segment and hepatic and pancreatic sympathectomy, to facilitate all necessary hormonal and metabolic alterations for resolution of diabetes. 91 male and 41 female patients with mean age of 46 years and preoperative body mass index (BMI) of 28kg/m2 (range 20.2- 34.8kg/m2) were affected by diabetes for 11.96 years with mean HbA1c of 9.48% (range 4.9 - 16%). Primary outcomes were remission of T2DM and extent of weight loss, and secondary outcome was its safety and nutritional stability.

Results:
Of these 132 patients, 61(56%) and 21(52%) followed up at 5 and 10 years respectively, with remission of diabetes 66% and 75%, mean fall of HbA1c from 9.48% to 6.37% and 6.28%, glycemic control in 75% and 80% and reduction in BMI from 28 to 23kg/m2. Mean percentage total body weight loss (%TBWL) was 17.4% and 14.3% at 5 and 10yrs, with 33% reduction in A1c, indicating the obvious metabolic nature of this procedure. Operative duration was 240-360min, average hospital stay 4-5 days, without mortality from the procedure.

Patients had good nutritional stability at 10 years, though 10% with food intolerance and 4% with diarrhea or abdominal pain were treated conservatively. 3 patients with adhesive band obstruction, 2-7 years post-surgery, had to be operated. None developed internal herniation through any of the closed mesenteric gaps. Complication rate was 4.75%.

Conclusions:
DII+SG+SIAS has been very effective for long term control of T2D and comorbidities, in poorly controlled patients with diabetes, even in low BMI group of 20-35kg/m2, with good nutritional stability.

Oral

03

15 years of OAGB, 10000 cases - lessons learned where we burned our fingers

Mahak Bhandari, Susmit Kosta, Manoj Kumar Reddy, Winni Mathur, Mohit Bhandari
Mohak Bariatrics and Robotics

Introduction:
One Anastomosis Gastric Bypass (OAGB) has emerged as a prominent surgical solution for severe obesity. However, the optimal length of the biliopancreatic (BP) limb in OAGB remains a contentious. This study endeavours to compare the outcomes of patients with standardized 180cm BP limbs to those with limbs ≥ 200cm, particularly focusing on patients with severe obesity. Additionally, it highlights the preference for OAGB in specific patient populations, emphasizing the importance of individualized surgery choices based on patient characteristics, considering factors like weight loss, metabolic syndrome resolution, nutritional deficiencies, and overall quality of life.

Methodology:
A retrospective analysis of our comprehensive bariatric database studied OAGB patients with a BMI ≥ 50 kg/m². The data encompassed patient demographics, BMI, comorbidities, weight loss, nutrient deficiencies, and comorbidity resolution for both BP limb modifications.

Results:
This study involved patients with severe obesity undergoing OAGB with two BP limb variations. At the 5-year mark, it was observed that %Total Weight Loss (%TWL) was 31.15% for BP limbs ≥ 200cm and 28.26% for standardized 180cm limbs. The study revealed that diabetes resolution rates were 86.6% and 84.4% for these groups, and hypertension resolution rates were 82% and 87%, respectively. Furthermore, the incidence of anemia, protein, vitamin, and calcium deficiencies was notably higher in patients with BP limbs ≥ 200cm. A thorough analysis of our data and existing literature unearthed several insights: patients with BMI <35 achieved Excess Weight Loss (EWL), high deficiencies were linked to BP limbs >200cm, patients with severe obesity (BMI >50) experienced recurrent weight gain after 5 years, and significant differences were detected in vitamin levels and protein between 180cm and 200cm BP limbs. Additionally, a preliminary comparative report on banded OAGB vs. OAGB highlighted the safety and efficacy of the banded OAGB, while acknowledging the need for long-term follow-up and multicentre trials to determine its lasting effectiveness.

Conclusion:
The standardization of BP limbs to 180cm significantly reduced nutritional deficiencies in patients with severe obesity , albeit at the expense of reduced weight loss. Revised protocols emerged from these findings, including the non-recommendation of OAGB for patients with BMI <35 due to elevated EWL and malnutrition risks.

Oral

04

16 years of progress in gastric embolization for obesity management: A comprehensive review and report of outcomes in elderly patients.

Juan Pardo, Julieta Paleari
Centro Medico Paleari

Introduction:
Since its introduction in 2008 , gastric embolization (GE) has emerged as a promising minimally invasive option for weight loss and obesity treatment. We present a systematic review of the literature from 2008-2024 and clinical experience using GE in elderly patients.

Methods:
A literature search of PUBMED, SCOPUS was conducted to identify original studies on GE for obesity published 2008-2024. Additionally, outcomes were analyzed for 10 patients aged > 75 years (mean 80.3) who underwent GE at our center.

Results:
The review identified over 50 publications documenting GE’s evolution. Short - term data demonstrates 25-50% excess weight loss (EWL) at 1 year. Our elderly cohort achieved leaned 1-year % EWL of 25.4 % without major complications adding to evidence of GE's safety and efficacy across age groups.

Conclusion:
This is the first review to comprehensively summarize 16 years of research progress and clinical advances with GE. Our experience treating elderly high- risk patients provides further support for GE as a minimally invasive option for age appropriate obesity management. Large controlled studies are still warranted.

Oral

05

5 year outcomes of sleeve gastrectomy vs roux-en-y gastric bypass vs one anastomotic gastric bypass in lacto-vegetarian subset of Indian population.

Riddhish Gadani, Manish Khaitan
Nobesity bariatrics, KD Hospital, Ahmedabad, Gujarat

Background:
This study aims at comparing the 1,2,3,5 year follow-up results across SG, OAGB and RYGB in terms of change in weight, change in BMI, change in clinical parameters and resolution of diabetes mellitus in lacto-vegetarian subset of Indian population.

Objective:
To compare mid term outcomes of sleeve, RYGB and OAGB.

Method:
A retrospective analysis from our bariatric practice from 2016 to 2018. During this period, total 121 patients who underwent bariatric surgery met the inclusion criteria of which 39 were OAGB, 45 were RYGB, and 37 were SG. These patients were compared in age, gender, height, preoperative weight, and BMI and various clinical parameters across SG, OAGB, and RYGB at baseline. The change in weights and BMI, blood parameters and diabetes resolution at year 1,2,3 and 5 were compared.

Results:
Follow-up was achieved in 39 OAGB, 45 RYGB and 76 SG patients at year 1, 2 , 3 and 5. Mean BMI for the OAGB, RYGB and LSG group was 44.9 ± 7.41 kg/m2, 45.1 ± 9.13 kg/m2 and 43.7 ± 6.36 kg/m2, respectively (P>0.05). The average percentage of excess weight loss (%EWL) for the OAGB, RYGB and LSG group at 2nd year was 102.5± 42.46 kg, 77.5 ± 16.42 kg, and 102.3 ± 36.22 kg respectively (P<.001). Remission of diabetes mellitus was seen in 77.3%, 70% and 61.5% for OAGB, RYGB and LSG group respectively. Level of albumin was almost similar in all groups at the end of 5 years. All surgeries were comparable in terms of nutritional deficiencies.

Conclusion:
Weight loss is similar in OAGB, RYGB and SG in first year, 3rd year and 5th year, however, higher weight loss can be seen in case of OAGB in the 2nd year. Similarly, OAGB and SG LSG shows higher %EWL as compared to RYGB. In case of DM remission, OAGB and RYGB showed significant decreases at year 1,2,3,5 whereas, for SG remission was significant at 3rd year only. There were no major nutritional deficiencies in all type of surgeries even in lacto-vegetarian subset of population.

Oral

06

A Nationwide study comparing glycemic control in Asian patients with T2DM and low BMI: metabolic surgery versus conventional therapy

Soo Min Ahn, Min-young Lee, In-Kyu Kwon, Young Suk Park, Hyuk-Joon Lee
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Background:
Research assessing glycemia control of metabolic surgery for improving diabetes in Asians with T2DM and low BMI is limited.

Objectives:
We aimed to evaluate and compare the glycemic control of metabolic surgery versus non-surgical treatments in Asian patients with T2DM and low BMI.

Methods:
We analyzed data from patients who underwent metabolic surgery and were registered in the Korean Society for Metabolic and Bariatric Surgery data registry (January 2019 - June 2020) with a BMI of 27.5-32.5 kg/m2 and T2DM (n=95). We compared the glycemic control to the patients receiving medical treatment for T2DM during the same period (n=255). After propensity matching by gender, age, BMI, and glycated hemoglobin (HbA1c), 76 patients were selected in both groups. The primary endpoint was HbA1c at 1 and 2 years. The secondary endpoints were the proportion of patients achieving HbA1c < 6 .5% and T2DM remission rates. Subgroup analysis was performed for patients with BMI <30 kg/m2.

Results:
Surgery included sleeve gastrectomy (n=36), Roux-en-Y gastric bypass (n=38), or sleeve gastrectomy + duodenojejunal bypass (n=21). BMI (kg/m2) was significantly lower in the surgical group (30.7 vs. 30.6 at baseline; 25.6 vs. 29.2, 25.1 vs. 29.2, and 25.1 vs. 28.9 at 6, 12, and 24 months; p < 0 .01, respectively). The mean HbA1c was significantly lower in the surgical group (8.3% vs. 8.2% at baseline; 6.1% vs. 6.9% and 6.9% vs. 7.2% at 6 and 12 months; p < 0 .01 and p=0.07, respectively). The proportion of patients achieving HbA1c < 6 .5% was significantly higher in the surgical group (45.2% vs. 73.8% and 40.0% vs. 65.0% at 6 and 12 months; p < 0 .01, respectively). The complete remission rate of diabetes was significantly higher in the surgical group (2.6% vs. 33.3% and 0.0% vs. 26.7% at 1 and 2 years; p < 0 .01, respectively). The complete remission rate in patients with BMI < 3 0 kg/m2 was also significantly higher in the surgical group (45% vs. 9.5% and 50% vs.0 0% at 12 and 24 months; p <0.01, respectively).

Conclusion:
Metabolic surgery may be considered an option for Asian patients with T2DM and low BMI to achieve appropriate glycemic control goals.

Oral

07

A pilot study to evaluate the efficacy and safety of gastric mucosal ablation with hybrid argon plasma coagulation combined to endoscopic gastroplasty

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Background:
Obesity is one of the most prevalent diseases worldwide with a high impact on the health care system in many countries. Endoscopic Sleeve Gastroplasty (ESG) appears as a less invasive option compare to bariatric surgery, more effective than pharmacological treatment and lifestyle changes, with lower morbidity when compared with bariatric surgery. Ghrelin is a powerful orexigenic hormone that plays a pivotal role in glucose metabolism; is mainly produced and secreted by endocrine cells of the gastric glands of the stomach fundus and acts in the brain to regulate food intake. Acylated ghrelin, the active form of the hormone, has an inhibitory action on insulin secretion in pancreatic beta-cells and accumulating evidence points to a significant role of ghrelin in the pathogenesis of hyperglycemia and insulin resistance in people with obesity.

Objectives:
Evaluate the efficacy and safety of Hybrid Argon Plasma Coagulation (HybridAPC) for gastric mucosa ablation of the fundus (GMA) in patients undergoing endoscopic sleeve gastroplasty (ESG). To demonstrate how eradication of ghrelin in the fundus with GMA could be a promising approach for ghrelin reduction and improved weight control in the management of people with obesity.

Methods:
This is a pilot, interventional and single-centre study. Patients with a BMI between ≥ 30 and ≤ 39.9 kg/m2 will be considered eligible for the study. The HybridAPC will be applied to the gastric fundus post ESG procedure in the course of the same treatment session. Patients will be followed up at 1, 6 and 12 months after ESG and HybridAPC is performed.

Results:
From October 2023 to February 2024 16 patients have been enrolled. All patients were discharged in good general clinical condition the day after the procedure. Preliminary data shown a TBWL% of 14.3% at 3 months follow up and no adverse effects were observed.

Conclusion:
We believe that Hybrid-APC gastric mucosal ablation is safe and effective with ESG. The fundus stem cells could be stimulated to produce new ghrelin-secreting endocrine cells and this could improve the long terms outcomes in terms of body weight loss and comorbidity reduction in patients affected by obesity underwent ESG. Further data are needed on long term follow-up.

Oral

08

A predictive model to predict the occurrence of gastroesophageal reflux disease after sleeve gastrectomy

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Background:
Gastroesophageal reflux disease (GERD) is a common complication after laparoscopic sleeve gastrectomy (LSG); however, there is no model that can predict the incidence of GERD after LSG.

Objectives:
This study aimed to construct a model that can predict the incidence of GERD after LSG by exploring the correlation between the results of high-resolution esophageal manometry (HREM) and the incidence of GERD after LSG.

Methods:
We collected the clinical data of patients who had undergone HREM before LSG from September 2013 to September 2019 at the bariatric centre of Beijing Shijitan Hospital. The Gerd-Q scores during the postoperative follow-up were collected to determine the incidence of GERD. A logistic regression analysis was performed to explore the correlation of the HREM results and general clinical data with the incidence of GERD after LSG. Based on the results, a predictive model was established.

Results:
The percentage of synchronous contractions, lower esophageal sphincter (LES) resting pressure, and history of smoking were correlated with the development of GERD after LSG, with the history of smoking and percentage of synchronous contractions as risk factors and LES resting pressure as a protective factor. The training set showed an area under the ROC curve (AUC) of the nomogram model of 0.847. The validation set showed an AUC of 0.761. The receiver operating characteristic and calibration curves suggested that the prediction model had good reliability. The decision and clinical impact curves showed a high clinical value for the prediction model.

Conclusion:
The HREM results correlated with the development of GERD after LSG, with the percentage of synchronous contractions and LES resting pressure showing predictive value. Combined with the history of smoking, the predictive model showed a high confidence and clinical value.

Oral

09

A randomized clinical trial of LSG vs SG-TB for the treatment of severe obesity in China: a 1-year outcome

Xiaocheng Zhu, Jian Hong, Libin Yao, Xia Sun, Fidele Kakule Kitaghenda
Affiliated Hospital of Xuzhou Medical University

Background:
Transit bipartition with sleeve gastrectomy (SG-TB) is an emerging technique with promise for treating metabolic syndrome. However, there is a lack of randomized controlled trial (RCT) comparing laparoscopic sleeve gastrectomy (LSG) and SG-TB.

Objectives:
To compare the 1-year follow-up results of SG-TB and LSG in terms of weight loss, complications, and comorbidity resolution.

Methods:
A prospective randomized study was conducted from 2022, comparing outcomes between 118 SG-TB patients and 114 LSG patients. The general information and complications of the patients before the operation were recorded, and postoperative changes in weight, glucose metabolism, comorbidity improvement, and nutritional status.

Results:
Follow-up was achieved for 104 SG-TB and 107 LSG patients over a 1-year period. The mean preoperative BMI was 38.2 ± 5.6 kg/m2 for the SG-TB group and 38.6 ± 5.1 kg/m2 for the LSG group. At the 1-year mark, the mean BMI reduced to 24.1 ± 3.2 kg/m2 and 26.6 ± 3.7 kg/m2, respectively. The SG-TB and LSG patients demonstrated significant statistical differences, with %EWL of 116.4% versus 94.0%, and %TWL of 35.6% versus 30.7%. Remission rates for obesity-related comorbidities were as follows: type 2 diabetes mellitus at 89.4% versus 79.0%, hypertension at 90.3% versus 82.1%, and obstructive sleep apnea-hypopnea syndrome at 95.1% versus 92.2%. Additionally, the SG-TB group showed a 16.2% incidence of anemia and 4.3% of hypoalbuminemia, compared to 4.8% of the LSG group experiencing anemia.

Conclusion:
During the 1-year follow-up, SG-TB was associated with more pronounced weight loss effects than LSG. While SG-TB demonstrated higher remission rates of obesity-related comorbidities and a greater incidence of malnutrition compared to LSG, these differences did not reach statistical significance. Longer follow-up duration and larger sample will be needed in the future.

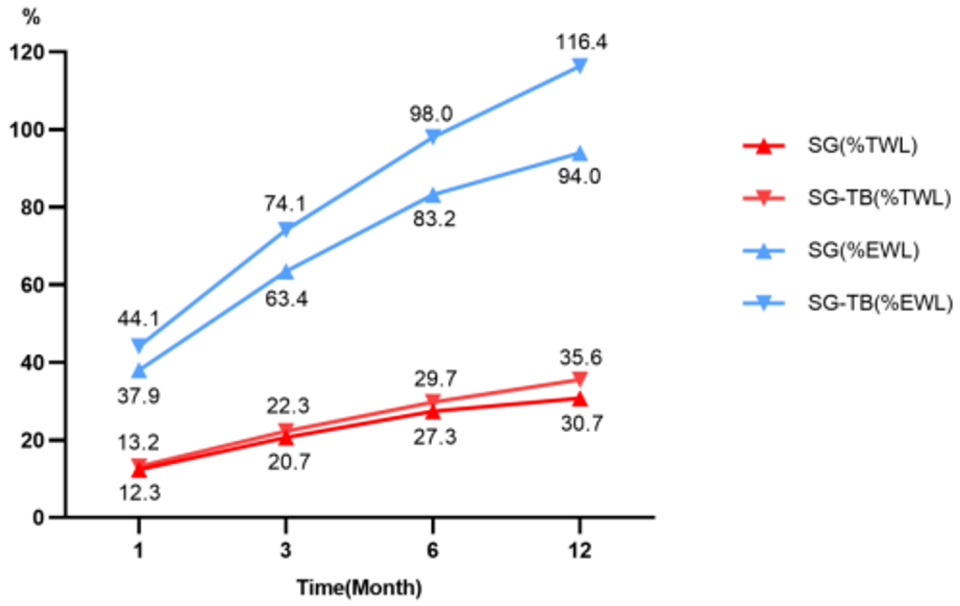

Figure. %TWL and %EWL values in each follow-up

Figure. %TWL and %EWL values in each follow-up

Oral

10

A RCT Comparing the Outcomes of Laparoscopic Roux-en-Y gastric bypass versus Laparoscopic sleeve gastrectomy with Duodenojejunostomy (1-year results)

Pattharasai Kachornvitaya, Suthep Udomsawaengsup
King Chulalongkorn Memorial Hospital

Background:
Obesity and its related metabolic disorders have become a serious health problem in Asia. Laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSG-DJB) has been proposed as an alternative surgical approach to laparoscopic Roux-en-Y gastric bypass (LRYGB) for patients with a risk of gastric cancer. We aim to compare the outcomes of these two procedures in patients with severe obesity

Methods:
Twenty-four patients with severe obesity were selected for a bypass procedure were randomly assigned to two groups: laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSG-DJB) and laparoscopic Roux-en-Y gastric bypass (LRYGB). The biliopancreatic limb lengths were 100 cm and alimentary limb lengths were 100 cm, which were similar in both groups. The sleeve was created using a 36F bougie. The primary endpoint was weight loss, measured as percentage excess weight loss with a 5-year follow-up period. Secondary endpoints included resolution of comorbidities, operative times, and adverse events.

Results:
In total, 13 patients were randomly assigned to LRYGB, and 11 patients to LSG-DJB. The mean body mass index was 55.5 ± 5.5 kg/m2 in the LRYGB group and 55 ± 5.2 kg/m2 in the LSG-DJB group (p = 0.406). The percentage of excess weight loss at 3 months (31.5 ± 10.5% and 28.2 ± 5.9%, p = 0.151), 6 months (43.9 ± 12.3% and 35.4 ± 9.2%, p = 0.369), and 12 months (58.2 ± 10.3% and 53.5 ± 11.7%, p = 0.850) did not differ significantly between the groups. Operating times were 199.7 ± 86.0 mins in the LRYGB group and 225.5 ± 87.7 mins in the LSG-DJB group (p = 0.303). Resolution rates of diabetes, hypertension, and dyslipidemia were similar between the groups, with no statistically significant differences. Additionally, there were no adverse events reported in both groups.

Conclusion:
Laparoscopic sleeve gastrectomy with duodenojejunal bypass represents a safe and effective alternative to laparoscopic Roux-en-Y gastric bypass for weight loss and the resolution of comorbidities in the short term among Asian populations. However, long-term follow-up of this procedure is still needed.

Oral

11

A review of the braun anastomosis as an alternative for treatment of bile reflux following one anastomosis gastric bypass

Nathan Ip, Joel Rabindran, Harry Frydenberg
Eastern Health

Background:
Bile reflux is a common complication following One Anastomosis Gastric Bypass (OAGB) requiring an additional procedure when medical management is refractory. One definitive option is conversion to Roux-en-Y Gastric Bypass (RYGB), however when confronted with this clinical challenge, we have explored utilising the Braun anastomosis instead.

Objectives:
Currently, few studies explore the efficacy of the Braun anastomosis in treating post-OAGB bile reflux. Amongst the limited literature, the Braun demonstrated effective bile reflux treatment. In our unit, we have used this procedure for two post-OAGB patients, 10cm from the OAGB anastomosis, with positive effect. Whilst comparisons between the Braun and RYGB have been conducted post-Single Anastomosis Sleeve Ileal (SASI) Bypass, these comparisons remain unexplored post-OAGB, prompting investigation.

Methods:
A comprehensive literature search was conducted on PubMed, Scopus, Embase, Ovid Medline and Google Scholar. The key search terms utilised were “one anastomosis gastric bypass”, “single anastomosis gastric bypass”, “mini gastric bypass”, “omega loop gastric bypass”, “biliary reflux”, “bile acid reflux”, “braun anastomosis”and “roux-en-y gastric bypass”.

Results:
Literature search yielded four studies of interest. A 2021 prospective cohort study discussing the effectiveness of the Braun anastomosis at managing post OAGB bile reflux revealed an 85% optimal clinical response rate at treating bile reflux and the procedure was performed 30 cm from the OAGB anastomosis. Another 2021 retrospective study reviewing post-SASI bile reflux treatment investigated the effectiveness between revision with the Braun anastomosis (20cm from the SASI anastomosis) compared with conversion to RYGB and revealed no statistically significant difference in the post-operative complication rate nor the amount of weight loss in the first 3 months after surgery. However, the Braun anastomosis procedure had a statistically significant shorter duration for operative time and length of hospital stay when compared with RYGB.

Conclusion:
Direct comparisons between the Braun and RYGB as treatment options for bile reflux post-OAGB remain elusive. This area requires further exploration with the potential for Braun revision, being a faster & easier procedure to perform, to displace conversion to RYGB in this clinical setting. Furthermore, variability in the distance between the Braun and OAGB illuminate a lack of consensus, requiring further investigation.

Oral

12

A three-year follow-up analysis on the efficacy of sleeve gastrectomy plus jejunojejunal bypass in patients with T2DM with BMI≥40 kg/m2

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Chinese PLA General Hospital

Background:
Sleeve gastrectomy plus jejunojejunal bypass (SG+JJB) is currently attracting increasing attention in China, and more evidence is needed to confirm its effectiveness in type 2 diabetes mellitus(T2DM).

Objectives:
In this study, patients with T2DM with body mass index (BMI) ≥ 40kg/m2 at our center are given three-year follow-up data along with comparing outcomes of SG+JJB, sleeve gastrectomy (SG).

Methods:
A total of 49 patients were enrolled, with the distribution as follows: SG+JJB (N=21), SG (N=28). Subsequently, we compared SG+JJB with SG to assess three-year postoperative remission in each group.

Results:
The T2DM remission rates in the SG and SG+JJB groups were 82.1%, 71.4%, 53.6%, 90.5%, 90.5%, 85.7%, respectively, at years 1, 2, and 3 of follow-up. At the three-year follow-up period, the SG+JJB group demonstrated a significantly better T2DM remission rate [85.7% vs 53.6%, P=0.018] and a significantly lower recurrence [5.3% vs 34.8%, P=0.027] than the SG group. Meanwhile, the SG+JJB group had a positive effect on the patients' fasting blood glucose (FBG) [8.13 ± 1.22 vs 5.4± 0.9, P＜0.05] and glycated hemoglobin (HbA1C) levels [7.50 ± 1.98 vs 5.67 ± 1.03, P＜0.05].

Conclusions:
During the three-year follow-up period, SG+JJB had better T2DM remission than SG in patients with T2DM with BMI ≥ 40 and had a lower recurrence rate than SG, making it a procedure worth continuing to explore and implement.

Oral

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Adding a ring to the Roux-en-Y gastric bypass - a propensity score matched analysis of 5 year follow up results

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Background:
The banded RYGB (bRYGB) is proven to be a superior treatment option compared to a regular RYGB when considering long-term results. However, the long term results of the Gastric pouch, a silicone ring specifically designed to be added to bariatric procedures, has not yet been studied extensively.

Objective:
To compare five years follow up data of the bRYGB and the non-banded RYGB (nbRYGB) regarding weight loss, obesity associated medical problems and (ring related) complications.

Method:
All consecutive patients who received a primary bRYGB between June 2016 and May 2018 in the Zuyderland Medical Center with complete 5 year follow-up data were included in this study. This group was compared to data from a propensity score matched group from the Dutch Audit for Treatment of Obesity (DATO), the Dutch quality registry for bariatric and metabolic surgery. Matching was performed using baseline characteristics and limb lengths of 50-70cm for the biliopancreatic limb and 100-150cm for the alimentary limb.

Results:
After matching two groups of 296 patients were compared in this study. After five years a significant difference in %Total Weight Loss(TWL) in the bRYGB compared to the nbRYGB was seen: 31.5% versus 28.0% ($p<0.01$). (Table 1) Patients in the bRYGB group experienced weight recurrence less frequently. (Table 2) In the nbRYGB 6 (2%) complications < 30 days with Clavien Dindo ≥3 were registered compared to 10 (3%) in the bRYGB ($p=0.33$). The obesity associated medical problems showed significant improvement, which was comparable in both groups, except for hypertension with 81% in nbRYGB and 66% in bRYGB ($p=0.03$). After five years of follow up, 13(4%) patients had ring-related complications. (Table 1)

Conclusion:
After five years of follow up, bRYGB showed superior results regarding %TWL and weight recurrence compared with nbRYGB. Associated medical problems improvement and complications rates are similar in both groups. Therefore we conclude that the banded RYGB results in superior weight loss outcomes without an increased risk.

Table 1. 5 year outcomes of banded versus non-banded RYGB

Outcomes		nRYGB	bRYGB	OR (95% CI)	β *(95% CI)*	P-value
N		**296**	**296**			
%TWL		28.0	31.5		3.59 (2.09 – 5.09)	< 0.01
Prolonged stay (N, %)		21 (7.1)	5 (1.7)	0.22 (0.08 – 0.60)		< 0.01
Readmission (N, %)		9 (3.0)	15 (5.1)	1.70 (0.73 – 3.94)		0.22
CD3+ < 30 days (N, %)		6 (2.0)	10 (3.4)	1.67 (0.60 – 4.67)		0.33
Comorbidity	**n**	**Improvement at 5 years (%) nRYGB**	**bRYGB**			
Diabetes mellitus	*115*	85.7	78.7	0.62 (0.21 – 1.79)		0.37
Hypertension	*211*	80.9	66.3	0.47 (0.23 – 0.93)		0.03
Dyslipidemia	*120*	72.1	56.3	0.48 (0.20 – 1.16)		0.10
OSAS	*102*	94.4	95.1	1.29 (0.16 – 10.1)		0.81
GERD	*96*	95.2	86.7	0.24 (0.02 – 3.46)		0.29
Musculoskeletal pain	*377*	70.1	79.2	1.62 (0.91 – 2.90)		0.10

Reference = nRYGB.
β reflects the absolute difference between nRYGB and bRYGB.
nRYGB = non-banded Roux-en-Y gastric bypass, bRYGB = banded Roux-en-Y gastric bypass, N = number of patients, OR = odds ratio, CI = confidence interval, TWL = total weight loss, CD = Clavien-Dindo, n = number of patients with the comorbidity at baseline, OSAS = obstructive sleep apnea syndrome, GERD = gastro-esophageal reflux disease.

Table 2. Differences in the occurrence of weight recurrence up to 5 years postoperatively

Incidence of weight recurrence	*nRYGB*	*bRYGB*	OR (95% CI)	P-value
N	**296**	**296**		
Recurrent weight gain of > 30% from initial weight loss (n, %)	146 (49.3)	90 (30.4)	0.45 (0.32 – 0.64)	< 0.01
Increase of ≥20% from nadir weight (n, %)	123 (41.6)	77 (26.0)	0.50 (0.35 – 0.71)	< 0.01

Reference = nRYGB.
nRYGB = non-banded Roux-en-Y gastric bypass, bRYGB = banded Roux-en-Y gastric bypass, N = number of patients, OR = odds ratio, CI = confidence interval.

Oral

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Adjustable intragastric balloon in non-alcoholic steatohepatitis – enhanced weight loss and histological improvement

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Aim:
Higher proportion of patients with metabolic dysfunction-associated steatohepatitis (MASH) and obesity fibrosis and cirrhosis which can regress with weight loss. Limited studies have evaluated role of adjustable Intragastric Balloon (aIGB) in this settings. We therefore aimed at assessing the impact of aIGB placement on the metabolic and histological aspects of NASH, emphasizing its potential for inducing significant weight loss necessary for NASH resolution.

Methods:
Thirty-six consenting patients (Females-47.23%; mean age-39.8 years, mean BMI 35.4 kg/m2) underwent endoscopic ultrasound-guided liver biopsy at aIGB placement between September 2020 and February 2023 in this prospective study. The primary outcome was the change in the non-alcoholic fatty liver disease activity score (NAS), and secondary outcomes were weight reduction, ALT improvement, fibrosis and steatosis scores, and adverse events.

Results:
At 6 months, the mean total body weight loss (TBWL) was 12.65 kg (95% CI 10.38 - 14.92), with at least 5% TBWL achieved in 32 (88.89%) patients. Adjustment of aIGB was required in 27 (75%) due to weight loss plateau or intolerance. A significant improvement in NAS score at six months compared to baseline was observed (median (IQR) 3 (3 - 4) and 1 (0 - 1.75)), with NAS improvement seen in 91.67% (33/36) of patients. Fibrosis improvement was observed in 77.78% (28/36). There was significantly higher improvement in NAS score ($p<0.001$) and steatosis ($p=0.002$) in patients who underwent upward volume adjustment (n= 24)compared to those who did not (n= 12). The mean ALT level significantly improved at 6 months (86.36 ± 27.14 versus 38.53 ± 16.57; p 0.001). No serious adverse events were reported.

Conclusion:
Adjustable IGB is safe and effective in patients with obese MASH. aIGB led to improvement in NAS score and fibrosis score with a concomitant reduction in weight in a significant proportion of patients.

Oral

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AI-based weight maintenance digital platform for bariatric patient: A multidisciplinary approach

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Background:
Weight loss maintenance remains a challenge regardless of the weight loss methodology. Artificial intelligence along with digital technologies can offer individualized approaches to enable people to lose and maintain weight loss through lifestyle intervention.

Objectives:
To validate and quantify the efficacy of an AI-based lifestyle intervention digital platform for nonmedical weight loss maintenance implementing multidisciplinary approach.

Methods:
Non-randomized controlled study for 24 weeks of 357 participants, 58.5% female and 41.5% male. These participants had achieved mean weight loss of 13.9% in the previous trial. The control to treated group ratio was 1:2. Both the groups were divided into six subgroups: Overweight, Obesity I, Obesity II, Obesity III, Obesity IV, Obesity V. The intervention group was provided with an AI-based digital platform to deliver guidance, education, motivation, accountability, psychosocial coaching, and community support, through AI Expert System. The control group was provided with the scale only to collect wither weekly weight. Their weekly weights were recorded and statistical analysis was performed to understand the data.

Results:
Overall, 95.78% participants maintained their weight with mean Additional Weight Loss (AWL) of 2.48%, with SD, σAwl = 1.58, with 95% confidence interval (CI): 2.27% - 2.68%, $p < 0.00001$.

Overweight: Weight Maintenance (WM)= 100%, AWL=1.72% with SD, σow = 0.78, CI: 1.6%-1.8%, $p < 0.00001$.

Obesity I: WM = 93.93%, AWL = 2.52%, $\sigma ob1$ = 2.29, CI: 1.71% - 3.3%, $p < 0.00001$.

Obesity II: WM = 93.54%, AWL = 2.46%, $\sigma ob2 = 1.50$, CI: 1.91% - 3.01%, $p < 0.00001$.

Obesity III: WM = 97.22%, AWL = 2.64%, $\sigma ob3 = 1.42$, CI: 2.30% - 2.97%, $p < 0.00001$.

Obesity IV: WM = 95.34%, AWL = 2.53%, $\sigma ob4 = 1.44$, CI: 2.10% -3.00 %, $p < 0.00001$.

Obesity V: WM = 94.59%, AWL = 2.58%, $\sigma ob5 = 1.60$, CI: 2.04% - 3.12%, $p < 0.00001$.

Conclusion:
Using an AI-assisted lifestyle intervention, with user-friendly and personalized features, people with all level of obesity can maintain their weight loss. This type of interventions not only can help maintain the weight loss but also can contribute to additional weight loss.

Oral

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ALRYGB: a LRYGB that treats all reflux and improves weight loss

Stefaan De Clercq
Dr. Stefaan De Clercq

The majority of our patients affected by severe obesity suffer from GORD, as this is promoted by the increased abdomino-thoracic pressure gradient in obesity.

GORD is always associated with a hiatal hernia.

There are two types of reflux in GORD: simple acid reflux and combined acid and biliopancreatic reflux.

LRYGB with hiatal hernia repair will prevent the biliopancreatic juices from entering into the oesophagus, but may still allow the acid, produced in the stomach pouch, as well as the food from the pouch to reflux or regurgitate post bariatric surgery, if no associated fundoplication is performed.

In the last 3 years 152 patients underwent a LRYGB at our hospital, of which 82 (53.9 %) underwent a primary LRYGB and 70 (46.1 %) a conversion of a different procedure into a LRYGB.

In 73 patients (48.0 %) we performed a posterior Toupet fundoplication, using the remnant stomach, after reduction of the hiatal hernia, hiatus repair and creation of the LRYGB. We called this the ALRYGB or Anti-reflux Laparoscopic Roux-Y Gastric Bypass

Additional operating time was 20 to 30 minutes.

The mean BMI of the primary LRYGB cohort went from 43 kg/m2 to 27.5 kg/m2 in the first year, and in the primary LRYGB with Toupet fundoplication cohort from 41.9 kg/m2 to 23.7 kg/m2.

The mean BMI of the conversion to LRYGB cohort went from 39 kg/m2 to 30.1 kg/m2 in the first year, and in the conversion to LRYGB with Toupet fundoplication cohort from 35 kg/m2 to 27.9 kg/m2.

There were no morbidities nor mortalities associated with this extra procedure.

All patients were free from GORD after 1 year and there was no dysphagia with need for dilation.

This procedure had a significant additional effect on weight loss after 1 year.

Conclusion:
Adding a fundoplication to a LRYGB is safe and feasible. It improves weight loss and prevents acid reflux and food regurgitation.

Oral

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Ambulatory bariatric and metabolic surgery have better outcomes and satisfaction scores compared to inpatient surgery

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Background:
Traditionally bariatric-metabolic surgery is performed in an inpatient setting the average length of stay is from 24 hours to 72 hours. Recently ambulatory surgery or outpatient surgery is becoming increasingly common for cost cutting strategies. Advances in surgical technology, anesthesia using regional block and remote patient monitoring have increased the demand for outpatient surgery. The feasibility, safety and outcome has yet to be established for different types of bariatric-metabolic surgery and revisional surgery.

Objectives:
1. Establish the selection criteria algorithm and protocol for preoperative and post operative care for various bariatric-metabolic procedures.

2. To analyze the feasibility, safety, outcomes, and patient satisfaction score with different bariatric-metabolic surgery and revisional surgery.

3. To study the impact of new surgical technology, regional and non-narcotic anesthesia with preemptive medications, setting up the right patient expectations on outcomes and use of remote patient technology.

Methods:
After establishing the criteria and protocol we performed 400 bariatric-metabolic surgeries and revisions from 2021 to 2024. NIH criteria was used as an indication for surgery. Retrospective analysis of surgeries (gastric sleeve, gastric bypass, Duodenal switch, SADI and revisions) were performed.

Results:
The mean age of our patients was 42 years and mean BMI was 39. All surgeries were performed laparoscopic with no conversion to open. No mortality reported in our series. The average length of stay at our center was 135 minutes. All patients discharged the same day with no hospital transfer for any acute problems. No complications of bleeding, leak or DVT were noted in the postoperative period. Three patients required an ER visit in 30 days. One patient required reoperation within 30-day postoperative period. More than 50% of the patients did not require narcotics for postoperative pain. 96% of the patients have the highest satisfaction score of five out of five.

Conclusion:
Our data from limited experience strongly suggests that bariatric-metabolic surgery with a selective criterion is very safe, has much better outcomes with highest patient satisfaction besides being cost effective.

Oral

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Ambulatory bariatric surgery in an outpatient day care at a French private institute

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Obesity surgery is an emerging surgery all over the world due to increase of number of cases.

We demonstrate hereby its feasibility in an outpatient pathway based on French ambulatory system that is one day surgery.

This is a prospective randomized observation study from September 2017 until June 2023.

Patients eligibility has been studied and approved by both surgical and anaesthesiologist team.

Protocol have been written and standardized.

Results:
A total of 573 patients (314 bypass, 224 sleeve , 17 lap band) were included. After exclusion of 178 patients, a total of 395 cases were done in one day surgery, that is 68,94% (68,7% by pass, 67,7% sleeve and 88,3 Lap band). 13 patients were readmitted within 30 days (1 thrombophlebitis, 7 fistulas, 5 haemorrhage) that is an overall rate of 3,29% of readmission of which 7 were reoperated (= 1,77%).

No mortality in this series have been observed.

We demonstrated the feasibility of the one day surgery in the Bariatric field due to the low rate of complications and overall readmission, in only well-selected patients who meet the criteria's.

Oral

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Ambulatory sleeve gastrectomy: a non-inferior option for bariatric patients

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Background:
Primary metabolic and bariatric surgery is a safe and effective treatment for patients with obesity and metabolic syndrome. The adoption of enhanced recovery after surgery (ERAS) protocols has further optimized perioperative patient care, resulting in superior patient outcomes and shortened hospital stay. However, insufficient data exist regarding the application of ERAS principles in the ambulatory setting for patients undergoing robotic-assisted or laparoscopic sleeve gastrectomy (SG).

Objectives:
This study aimed to determine the effects of same-day discharge on patient outcomes.

Methods:
A retrospective analysis was conducted on patients who underwent primary SG at a single institution between January 2020 and May 2023. Patients discharged on the day of surgery were matched 1:4 to controls (primary SG with discharge on the day after surgery) using propensity scores. Thirty-day postoperative outcomes were compared. Continuous variables and categorical variables were categorized as medians with interquartile range (IQR) and counts with percentages, respectively.

Results:
A total of 455 patients fulfilled inclusion criteria, of which 51 patients were discharged on the day of surgery. The sample comprised 93.8% women, and 48.7% of patients were White. After matching, same-day discharge patients and their controls had similar preoperative characteristics. Although ambulatory patients had shorter lengths of stay than inpatients, differences in all-cause 30-day morbidity were not statistically significant (0% vs. 6.8%; *p=0.073*). The two groups experienced comparable frequencies of 30-day complications, namely, venous thromboembolism (0% vs. 1.1%; *p=1.0*), and infectious sequelae (0% vs. 1.1%; *p=1.0*). Neither group had bleeding events, postoperative leaks or re-operations. Remarkably, early discharge patients were not more likely to have unplanned 30-day readmission (0% vs. 6.2%; *p=0.129*), reintervention (0% vs. 3.4%; *p=0.342*) or emergency room (ER) (13.7% vs. 12.4%; *p=0.813*) and urgent care visits (3.9% vs. 4.5%; *p=1.0*). Regression analysis identified insurance type, history of acid reflux and robotic approach as predictive of ER visits (*p=0.014*, *p=0.025*, *p= 0.016*, respectively). Furthermore, total weight loss at six months was similar between the two groups (20.4 ± 5.8% vs. 20.5 ± 6.3%; *p=0.735*).

Conclusion:
Ambulatory sleeve gastrectomy can be safely performed in selected patients without additional risk and with equivalent outcomes to patients admitted overnight.

Oral

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Analysis of crowdfunding prevalence, motives, and success factors among patients seeking metabolic and bariatric surgery in the United States

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Background:
For patients in the United States (US), metabolic and bariatric surgery (MBS) is associated with significant costs. Online medical crowdfunding has gained popularity in the US as a means of mitigating the costs of medical care, but it is unknown whether MBS patients use crowdfunding to subsidize costs.

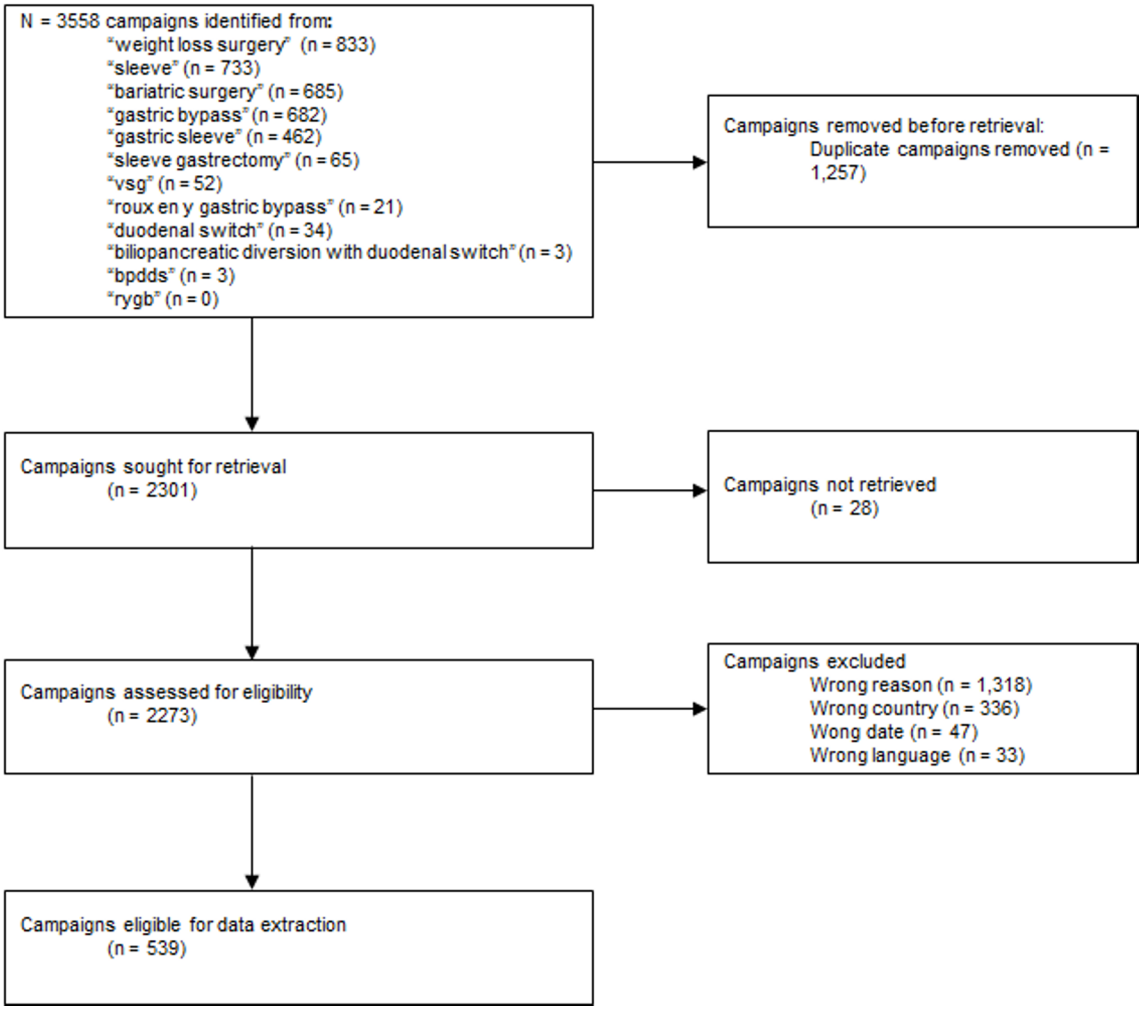
Objectives:
We aimed to identify GoFundMe campaigns seeking funds for MBS and, through analysis of their contents, characterize medical and non-medical motives for crowdfunding. We also aimed to determine factors associated with successful crowdfunding.

Methods:
We searched GoFundMe from inception to December 20, 2023 for campaigns raising funds for sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), or biliopancreatic diversion with duodenal switch (BPD/DS). We included campaigns created in the US, written in English, and active for at least 30 days. Sociodemographic, clinical, and financial data items were extracted by two investigators with disagreements resolved by a third investigator. We assessed associations between these data items and percentage of funds raised segmented into quartiles using ordered logistic regression adjusting for number of months active, funds requested, and campaign description length.

Results:
539 campaigns met eligibility criteria (Fig.1) with 33.6% raising funds for SG, 24.1% for RYGB, and 2.0% for BPD/DS; 40.3% did not specify a surgery type. Most campaigns were created by the patient (73.1%) who had health insurance (53.4%) and reported at least one comorbidity (56.8%). 53.6% sought funds for a direct medical cost (e.g., insurance deductibles) and 35.1% sought funds for at least one non-medical cost. Non-medical costs included disruption in employment and/or lost wages (15.8%), nutrition (e.g., protein shakes) (10.8%), transportation (10.2%), and living/housing expenses (3.9%). The median funding goal was $7500 (IQR: $4000-$14175) and the median funds raised was $825 (IQR: $0-$2700). 7.8% of campaigns met their funding goal with the majority (63.7%) raising less than 25% of their goal. In regression analysis, no sociodemographic, clinical, or financial variable was associated with percentage of funds raised ($p>0.05$).

Conclusions:
Patients seeking MBS in the US use online crowdfunding to subsidize both medical and non-medical costs of surgery however, the majority of campaigns do not reach their funding goal.

Figure 1. Flow diagram for selection of GoFundMe campaigns.



Oral

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Anthropometric changes and nutritional deficiencies following bariatric-metabolic surgery in geriatric patients with severe obesity: an updated Compr

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Background:
The prevalence of obesity in aging population is growing exponentially worldwide. Metabolic Bariatric Surgery (MBS) has become increasingly popular for achieving weight loss and improving concurrent comorbidities. Nevertheless, several complications were reported. There are also controversies regarding post-operative nutritional aspects and complications in this population.

Objectives:
This comprehensive review aims to address considerations for the nutritional outcomes and complications following MBS for adults with severe obesity over the age of 60 years.

Methods:
We comprehensively searched on this issue up 1 January 2024, on Web of Science, Scopus, Cochrane Library, Embase, and PubMed databases. Search terms included the following: elderly, advanced age, older adults, metabolic surgery, severe obesity, and bariatric surgery. Inclusion criteria were reports on anthropometric and biochemistry parameters, nutritional deficiency of in adults aged over 60 years following MBS.

Results:
After removing duplicates, 2220 records met the inclusion criteria for this systematic review, with 19 relevant articles finally included for analysis. Weight loss outcomes varied depending on the type of bariatric-metabolic surgery performed. Upon subgroup analysis by age, it was observed that older patients tend to experience less weight loss following bariatric surgery. Although significant and comparable weight loss results were observed following both One Anastomosis Gastric Bypass (OAGB) and Roux-en-Y Gastric Bypass (RYGB). Several studies highlighted common post-bariatric nutritional deficiencies in both types of bypass surgeries, including deficiencies in vitamin B12, homocysteine (Hcy), vitamin D, intact parathyroid hormone (iPTH), iron, and ferritin. Additionally, protein-energy malnutrition has been documented following OAGB in some studies.

Conclusion:
Among older patients, OAGB exhibits superior weight loss outcomes compared to SG, and RYGB. Although significant and comparable weight loss is achieved with both OAGB and RYGB, differences in nutritional disorders between the two procedures, specifically concerning anemia, hypoalbuminemia, and hypocalcemia, were not significant.

Oral

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Application of radiofrequency ablation in duodenal mucosal resurfacing: an open-label, pilot study

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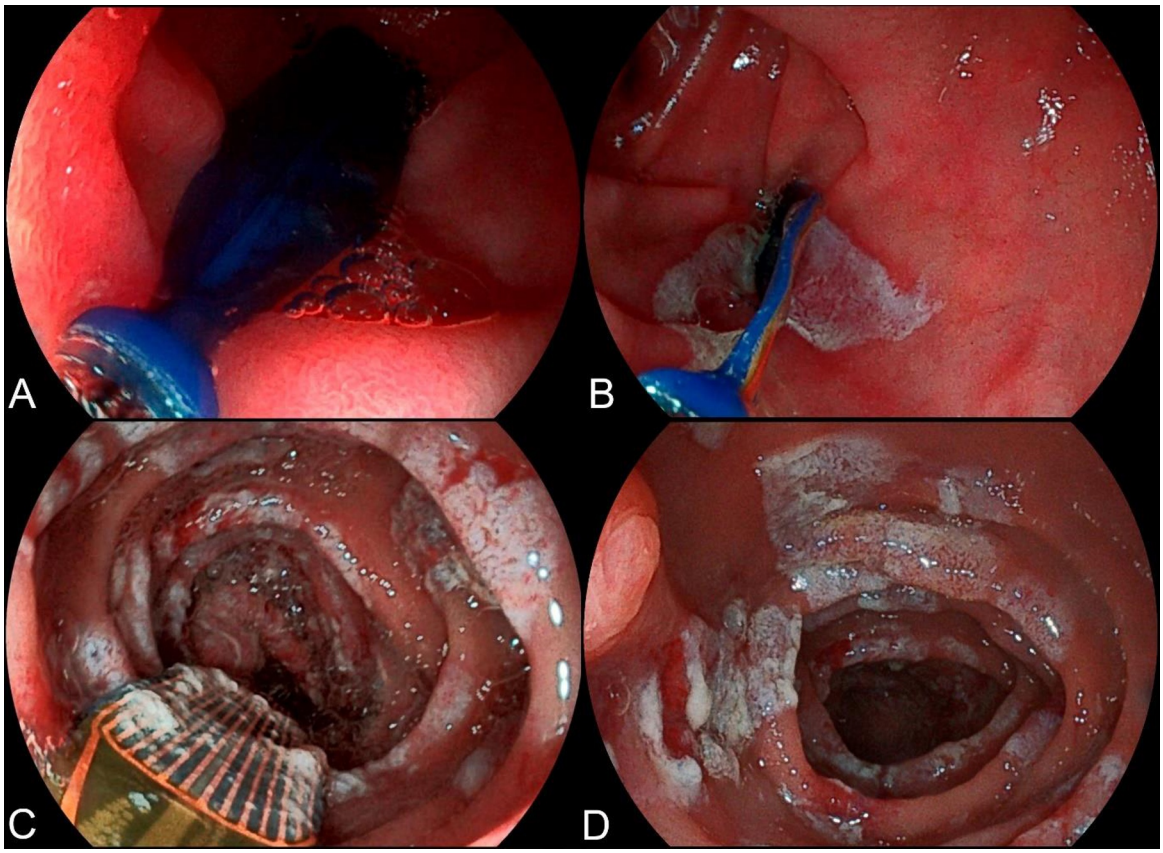
Background:
Endoscopic duodenal mucosal resurfacing (DMR) is currently a hot research topic. However, the consumables used in Revita research have not been listed in many countries. Medtronic digestive tract radiofrequency ablation system has great potential for application in this field.

Objective:
To explore the effect of DMR by using radiofrequency ablation system in the treatment of type 2 diabetes.

Method:
The endoscopic catheter (Barrx Channel; Medtronic, Minneapolis, USA) was inserted into the biopsy channel of the endoscope(HD-550; SonoScape, Shenzhen, China) to complete this surgery (the power used was 12 J/cm2, 48W).

Results:
We have completed a total of 14 surgeries (8 males and 6 females), all of which were successfully completed without any intraoperative bleeding or perforation. The average surgical time is 83.5 minutes. The patient was discharged on the second day after surgery without any discomfort such as abdominal pain, bloating, or fever. 11 patients (5 males and 6 females) completed a 3-month follow-up after surgery. After 3 months of surgery, the patient lost an average weight of 2.4kg, had an average decrease in fasting blood glucose of 1.27mmol/L, an average decrease in 2-hour postprandial blood glucose of 4.40mol/L, and an average decrease in glycated hemoglobin of 0.45%. All patients showed no increase in the type or dosage of hypoglycemic drugs compared to preoperative use after surgery. One patient achieved cessation of hypoglycemic drugs, three patients achieved reduction in hypoglycemic drugs, and the other patients had the same hypoglycemic drugs used before surgery.No cases of postoperative delayed bleeding, delayed perforation, or postoperative stenosis occurred

Conclusion:
The radiofrequency ablation system can be used to complete the treatment of DMR. During the follow-up period of 3 months after the operation, it can reduce the fasting blood glucose, 2-hour postprandial blood glucose, and glycosylated hemoglobin in patients with type 2 diabetes. Compared to Revita research, this method has a longer surgical operation time but fewer postoperative complications.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Oral

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Assessment of conservative approach for postoperative bleeding after sleeve gastrectomy: results of a single-center study

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CSO Sauvegarde

Introduction:
Sleeve gastrectomy is increasingly performed, primarily due to its low morbidity and mortality rates, but complications persist. Bleeding is one of these complications and can increase the morbidity of this surgery. Diagnostic and therapeutic approaches to bleeding vary among teams. In our centre, we adopt a conservative management approach based on active surveillance. The objective of our study is to evaluate the feasibility of this strategy.

Methods:
This is a retrospective single- centre study including all our patients who underwent sleeve gastrectomy from 2020 to 2023. Postoperative follow-up consists of a blood test every 48 hours for ten days. Postoperative imaging is not systematically performed. In the absence of active bleeding, surveillance is conducted upon discovery of a hematoma. We evaluated the number of patients presenting with postoperative hematoma, their characteristics, and management.

Results:
In total, 1813 sleeve gastrectomies were performed during the study period. 10 patients (0.6%) experienced postoperative bleeding at the stapling line. These hematomas were detected through postoperative hemodilution. On average, hemodilution was detected at 3.6 days postoperatively, with hemoglobin levels at 97g/dL. The average size of the hematoma was 121mm. 90% of patients underwent a conservative strategy, requiring transfusion in 33% of cases. Secondary surgery was not necessary. These patients underwent a follow-up CT scan one month later, revealing an average hematoma size of 78 mm. These hematomas did not result in infection or fistula.

Conclusion:
In this single-centre study, sleeve gastrectomy proved to be a safe and effective procedure, with a low rate of postoperative bleeding. The majority of patients experiencing postoperative bleeding were successfully managed conservatively, without complications.

Oral

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Assessment of high sensitive C-Reactive Protein (hs-CRP) changes following one anastomosis gastric bypass in patients with high BMI

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Background:
Obesity leads to chronic low-grade inflammation largely stemming from dysfunctional adipose tissue. Proinflammatory cytokines from adipocytes and infiltrating immune cells create systemic inflammation. This is evidenced by elevated hepatic synthesis of C-reactive protein (CRP), an inflammatory biomarker that predicts cardiometabolic disease risk. One anastomosis gastric bypass (OAGB) is a bariatric surgery technique that may resolve inflammation. However, data evaluating the sustained impacts of OAGB on inflammatory markers like CRP are scarce. Understanding long-term effects on inflammation could help explain OAGB's cardiometabolic benefits.

Objective:
This prospective cohort study aimed to assess the effects of OAGB surgery on high-sensitivity CRP (hs-CRP) levels over a 6-month follow-up period. We hypothesized CRP would significantly decrease post-OAGB, indicating improvement of obesity-driven inflammation. Demonstrating sustained CRP reduction could support inflammation's role in obesity comorbidities and help justify OAGB's use for inflammation-related conditions.

Methods:
In this prospective cohort study, 64 participants (mean BMI 44.4 kg/m2) underwent OAGB surgery. Serum hs-CRP was measured at baseline, 1, 5, 30 days, and 6 months post-surgery using commercially available high-sensitivity ELISA kits. Repeated measures ANOVA tested differences in hs-CRP over time. Factors associated with hs-CRP reduction over the 6-month period were investigated. Finally, linear regression was used to conduct a predictive model to predict hs-CRP reduction in the 6-month period.

Results:
hs-CRP significantly changed over time ($p<0.01$), initially increasing then decreasing below baseline by 6 months (pre-op: 8.98 ± 6.60mg/L; 6 months post-op: 3.47±2.14 mg/L). No age nor any underlying comorbidities such as hypertension, hyperlipidemia, and diabetes Mellitus did not impact the hs-CRP reduction in the 6-month period. Preoperative hs-CRP was the only predictor of hs-CRP reduction in the final regression model (adjusted $R^2=0.92$, $p<0.01$).

Conclusion:
OAGB surgery led to sustained reductions in hs-CRP levels, indicating an improved chronic inflammatory state in severe obesity. The hs-CRP reduction in the 6-month period was greater in individuals without diabetes than in individuals with diabetes, but the difference was not statistically significant. Preoperative hs-CRP levels strongly predicted subsequent decreases after OAGB. Our findings suggest OAGB may lower cardiometabolic disease risk by resolving obesity-driven inflammation.

Oral

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Association between dietary intake after roux-en-y gastric bypass surgery and antioxidant/inflammatory status: A 6-month prospective cohort study

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Background:
Adipose tissue can increase levels of inflammation and oxidative stress, which explains the relationship between obesity and many chronic diseases. Weight loss, changes in adipose tissue metabolism, and dietary nutrient intake changes following bariatric surgery could affect a number of oxidative- and inflammation-related factors.

Objectives:
This study aimed to assess the relationship between dietary intake and inflammatory/antioxidant markers in the 6 months following Roux-en-Y gastric bypass surgery (RYGB).

Methods:
This prospective cohort study included 45 patients with severe obesity who underwent Roux-en-Y gastric bypass surgery. The patients were assessed at three different time points: baseline, three months, and six months post-surgery. Throughout the study, dietary intake data, levels of total antioxidant capacity (TAC), NF-&kB, and serum levels of certain nutrients were measured three times. Dietary nutrient intake data were obtained three times throughout the study using the 24-hour food recall questionnaire.

Results:
The present study found that within 3 and 6 months after the surgery, the serum levels of TAC, ferritin, vitamin D3, vitamin B12, and folate increased in patients, while the serum levels of NF-&kB, zinc, and copper decreased. Predictive validity of dietary intake indicators for TAC levels 6 months after surgery. Analysis of the dietary intake indicators revealed a significant positive correlation between serum TAC levels and the intake of zinc, copper, and MUFA. Analysis of dietary indices showed a significant inverse correlation between serum levels of NF-&kB and vitamin E and PUFA intake.

Conclusions:
Weight loss and nutritional status may potentially impact oxidative stress and inflammation levels within six months following RYGB surgery. More studies are required to better understand the various aspects of this association and elucidate the exact underlying mechanism.

Oral

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Association between sonographic diagnosis of fatty liver and laboratory data with pathologic liver biopsy findings in bariatric surgery patient

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Background:
Metabolic dysfunction-associated steatohepatitis (MASH) is a common issue, which is frequently caused by severe obesity. The presence of steatosis, as a component of Metabolic-associated fatty live disease (MAFLD), can occasionally result in MASH. Todays, it has been shown that bariatric surgery can greatly improve the course of this disease.

Objective:
Identifying patients with MASH through intraoperative liver biopsies, enabling surgeons for further follow-up. We will attempt to determine non-invasive preoperative indicators and create a calculator to determine patients at risk of cirrhosis.

Methods:
The patients who were scheduled for bariatric surgery underwent a preoperative evaluation and liver biopsies were obtained during laparoscopic bariatric surgeries. Liver pathologic findings such as marcovescicular steatosis grads, fibrosis and MAFLD scores were analyzed. The other study variables included age, gender, Body Mass Index (BMI), diabetes mellitus, hypertension, smoking, alcohol, and the results of serum liver function tests, triglyceride, cholesterol, ferritin, copper, zinc, vitamin A and D, were also reviewed. Univariate and multivariate analyses were performed.

Results:
A total of 102 patients were entered into the study, 19.6% patients had grade 0, 43.13% had grade 1, 15.6% had grade 2, grade 3 was 21.56%. Liver fibrosis stages: 64.70% had grade 0, 28.43% had grade 1, 2.94% had grade 2, 2.94% had grade 3 and grade 4 was 0.98%. Macrovescicular steatosis grading has related to lower levels of vitamin d and diabetes but not significantly (borderline p value), and no obvious relationship was found with other variants. Fibrosis has no significant related to variants.

Conclusion:
Based on the results, it appeared that elevated levels of Tg, elevated BMI, diabetic status, and other variants did not exhibit a significant correlation with macrovescicular steatosis and fibrosis. However, lower levels of vitamin D may have been associated with macrovescicular steatosis. Furthermore, we found that fatty liver grading, which was evaluated by sonography, was not meaningfully correlated with pathological findings. According to our study, the clinical parameter had not certain relationship with pathologic findings. We aimed to find a strong way to evaluate liver condition correctly before operation using the above clinical parameters, in order to prevent complications during surgery.

Oral

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Association between the NAFLD development and reversal after metabolic bariatric surgery : new insights from bioinformatics analysis

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Background:
Metabolic bariatric surgery (MBS) is a potent therapy for non-alcoholic fatty liver disease (NAFLD), but its inherent risk and eligibility requirement limit its adoption.

Objectives:
Investigation of the association between NAFLD development and reversal after MBS for the development of novel therapeutics.

Methods:
Four datasets related to NAFLD (GSE24807, GSE48452, GSE63067, and GSE66676) and two datasets pertaining to MBS (GSE83452 and GSE106737) were retrieved from the Gene Expression Omnibus (GEO) database. Differentially expressed genes (DEGs) of NAFLD and MBS were identified and the intersection genes was obtained after combining all datasets and adjusting for batch correction. In addition, the MCODE module of Cytoscape was used to identify the hub genes from the protein-protein interaction (PPI) network. Moreover, transcriptional regulatory analysis, competing endogenous RNA (ceRNA) network model, and potential drug targeting analysis of the hub genes further elucidated the probable mechanism of NAFLD and MBS. Then, we verified the results using another NAFLD (GSE126848) and MBS (GSE48452) datasets. C57BL/6J mice were fed a high-fat diet (HFD) for 16 weeks to induce obesity-associated NAFLD and treated MBS for the another four weeks of HFD feeding. Finally, the expression of hub genes was verified by quantitative real-time PCR.

Results:
A total of 10 counter-trending hub genes including PLEK, LAPTM5, CD53, NCF2, LY86, CD86, CD44, CXCL10, HCK, and CD300A were selected from the PPI network. A network of transcription factor-hub genes was developed. 180 miRNAs and 161 lncRNAs were identified to construct the ceRNA network. A total of 40 drugs targeting four hub genes were obtained. Compared with HFD-fed control mice, MBS-treated mice showed improvement in body weight, glucose tolerance and insulin sensitivity, and NAFLD outcomes. The mRNA expression level of PLEK, LAPTM5, CD53, NCF2, LY86, CD86, CD44, CXCL10, HCK, and CD300A was decreased in liver of MBS-treated mice.

Conclusion:
The establishment of the 10 hub genes, along with the ceRNA regulatory network, the transcription factor-hub gene network, and the drug targeting network, provides promising molecular markers for NAFLD that may help in the future in the diagnosis and treatment of patients with NAFLD.

Oral

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Association of bilirubin with liver fibrosis and remission of diabetes in patients affected by severe obesity undergoing to bariatric surgery

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Introduction:
Currently, bariatric surgery (BS) is the most effective treatment for obesity and its comorbidities, such as type 2 diabetes mellitus (T2DM). Factors that improve T2DM post-intervention have been identified, such as young age, short duration of the disease, good glycemic control, and no use of insulin. However, little is known about the effect of other factors, such as metabolic dysfunction-associated fatty liver disease (MAFLD) or its association with bilirubin on the improvement of T2DM.

Objective:
To analyze the role of liver fibrosis and its association with bilirubin levels as a potential predictive factor for remission of DM2 at 12 months after BC.

Material and methods:
Prospective observational study in patients with severe obesity and T2DM undergoing CB between 2021 and 2022. Clinical, anthropometric and liver imaging variables were collected. Diabetes remission at 12 months was defined as normal blood glucose levels in the absence of pharmacological treatment.

Results:
After one year of BC, we observed significant changes in multiple anthropometric and biochemical variables. Something similar happens with liver scores, which improve significantly. The percentage of change was significant and greater than 30% for TG, insulin and HOMA-IR; and for the fibroscan, LAP, NAFLD-FS and FLI scores. Depending on the classification of the patients according to whether there was remission of DM2 one year after surgery, a statistically significant association was found only with bilirubin.

Conclusions:
The relationship between bilirubin, T2DM and liver fibrosis has been widely investigated, but still requires additional studies to confirm previous hypotheses. Our findings support growing scientific evidence of an indirect connection between bilirubin, diabetes and MAFLD.

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Oral

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Association of eating pathology with weight-loss out-come and it's management

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Introduction:
Bariatric surgery has revolutionised the treatment of severe obesity, offering significant and sustained weight loss along with improvements in comorbidities and quality of life. However, the optimal clinical response of bariatric surgery can vary widely among individuals, with factors such as eating pathology potentially playing a significant role in outcomes. Eating pathologies encompass a spectrum of behaviours and attitudes toward food, including binge eating, emotional eating, grazing, portion eating, etc, which may influence postoperative dietary adherence, weight loss, and long-term maintenance.

Objective:
The primary aim of the study is to find association between different eating patterns on weight-loss and management of different eating pathology.

Methodology:
A sample of total 1126 patients were selected for the study. With the guidelines of DSM IV and unstructured interview method, patient eating pathology were assessed before surgery and classified into four groups, i.e., trait of binge eating,emotional eating, Grazing, faulty eating habits. Patients' weight-loss was compared with the help of mean and percentage on the basis of their eating pathology annually.

Results:
The study findings indicate that grazers exhibit the slowest rate of weight loss among all groups, with binge eaters following closely behind. Interestingly, emotional eating does not show a negative correlation with weight loss.

Conclusion:
The analysis demonstrates the significant impact of eating pathology on weight loss post bariatric surgery. Individuals with preoperative eating disorders, such as binge eating disorder and grazing exhibited slower weight loss and were at higher risk for long-term challenges. Addressing these eating pathologies through tailored interventions, such as psychological intervention and nutritional counselling, is crucial for optimizing weight loss outcomes and ensuring sustained success postoperatively. Integrating comprehensive management of eating pathology into bariatric care protocols is essential for improving patient outcomes and enhancing long-term weight loss maintenance.

Key words: Eating pathology, Binge eating, Grazer, Emotional eating, psychological intervention

Oral

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Bariatric Hospital in the home (bHITH) – providing safe, resource efficient care in government funded healthcare settings

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Background:
Restrictions on elective surgery in Government funded healthcare settings, amplified by the COVID-19 era, has led to serious impacts on waiting lists, with many hospitals managing significant blowout of surgery waiting times. With increasing consumer driven demand for greater perioperative capacity and rising costs associated with inpatient stays, Government bodies have shifted their focus to elective surgery reform that delivers best care which also reconsiders best place for care. Given limited resources and no access to urgent-care centres outside of overwhelmed emergency departments, those providing obesity surgery must drive innovative approaches to delivering care. bHITH (bariatric hospital in the home) treatment pathway is such an approach.

Objectives:
Our team sought to develop an extension of our established enhanced recovery after surgery (ERAS) pathway to reduce inpatient length of stay, without compromising on clinical outcomes or patient satisfaction, to demonstrate safe, yet resource efficient care in a tertiary-level Government funded healthcare setting.

Methods:
A nurse-led multidisciplinary team designed the bHITH treatment pathway for those having primary gastric sleeve (SG) and gastric bypass (GB), which was instituted in August 2023. The pathway included early transition to out of hospital care, with Biobeat technology allowing remote monitoring. Early experience was examined.

Results:
Twenty-two patients were referred to the bHITH treatment pathway, with 18 (82%) successfully transferred. All (100 %) of transferred patients completed the course of treatment with no (0 %) readmissions at 28 days and no (0 %) reported complications at 28 days. Diversions from the pathway were for non-predictable causes and occurred in those referred to the pathway, outside of the eligibility criteria.

The average length of inpatient stay was 29 hours, and 31 hours for SG and GB with bHITH, saving 1.29 inpatient bed days. Sixty-three % of patients responded to feedback surveys and 100% were in support of care on the treatment pathway.

Conclusion:
The bHITH treatment pathway is a novel, patient-centered approach to delivering primary bariatric surgery in Government funded tertiary healthcare settings, without compromising clinical outcomes and allowing for considerably more perioperative capacity to deliver care through reduced length of inpatient hospital stay.

Oral

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Bariatric surgery for adults with obesity-related asthma

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Background:
Weight loss is viewed as a therapeutic intervention for individuals with obesity-related asthma. However, achieving weight loss poses challenges in this patient population, and the effect of bariatric surgery on asthma control remains uncertain.

Objectives:
To investigate the impact of bariatric surgery on obesity-related asthma.

Methods:
Among the 521 patients who underwent primary bariatric surgery at General Hospital in Osaka-JAPAN between June 2016 and February 2024, we analyzed those who self-reported a history of bronchial asthma before surgery and were still receiving bronchial asthma treatment at the time of surgery. We retrospectively evaluated their Asthma Control Test (ACT) scores, Short-Acting Beta Agonists(SABAs) usage, and Forced Expiratory Volume in 1 second (FEV1) before and after bariatric surgery. The statistical analysis utilized Wilcoxon's signed rank test for the pre- and post-indexes, with significance determined by a P value less than 0.05.

Results:
Of the fifteen patients included (86.7% female), all were receiving continuous asthma therapy at the time of surgery. The median age was 46 years (interquartile range: 39-54), with a median body mass index of 41.0 kg/m2; (interquartile range: 36.3-54.1). The median ACT score was 22 points (interquartile range: 19.75-22.25), %FVC (forced vital capacity) was 99% (interquartile range 84-110.3), and FEV1/FVC was 81.4% (interquartile range: 77.18-85.5). Three patients exhibited Type 2 inflammation phenotype, seven had Non-Type 2 inflammation, and five had an Unknown phenotype of bronchial asthma. Bariatric surgery was performed as LSG (laparoscopic sleeve gastrectomy) in 14 patients and LSG/DJB (laparoscopic sleeve gastrectomy with duodenojejunal bypass) in one patient. The percentage of total weight loss (%TWL) at 6 months postoperatively was 21.8% (interquartile range: 13.5-28.6), with 8 cases exhibiting a %TWL of 20% or higher at the same time point. Before and after bariatric surgery, the ACT scores improved from 21.4 to 24.9 points ($p = 0.0078$), FEV1 increased from 2470 to 2750 ml ($p = 0.0002$), and SABAs use decreased by 93.3%, indicating improved control of bronchial asthma.

Conclusion:
Therapeutic intervention through bariatric surgery for obesity-related asthma appears to result in improved control of bronchial asthma.

Oral

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Bariatric surgery in adolescents; safety and effectiveness - Experience in Chile.

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Background:
In the past decades the presence of obesity in adolescent population has grown significantly, therefore increasing the eligibility of adolescent patients to undergo bariatric surgery. The obesity in adolescents is related to the high rates of obesity in adulthood with more than 50-70% of cases. Also is a major cause of pediatric metabolic syndrome which is considered an important public health issue.

Objective:
To describe our surgical experience in the management of adolescent patients

Methods:
It is a descriptive retrospective study on adolescents who suffer obesity treated with a variety of surgical techniques, managed by one team of surgeons, between 2006 and 2023 with a follow-up of at least 1 year.

Results:
A total of n=125 patients were reported between December 2006 and March 2023, 69,8% were women and 30,2% men. Average age was 17,4 (13-19) years. Average BMI was 36,6kg/m2. They had a large number of comorbidities, the most common being insulin resistance, fatty liver, dyslipidemia and hypertension. The surgical techniques included: Gastric sleeve (90,3%), Gastric Bypass (4,8%) Endoscopic Sleeve Gastroplasty (ESG) (4%) and Bariclip (< 1 %). Complications where seen in just 2 cases (1,6%), neither of them turned out to be a serious and no deaths were reported. After one year of follow-up, the BMI came down to 25.3 (19.8-36.6), an average TWL% of 29.7% and a EWL% of 84.9%

Conclusion:
Bariatric surgery as a treatment for obesity in adolescents, has proven to be a safe and effective option, showing excellent results in weight loss with minimal complications.

Oral

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Bariatric Surgery is a physical and psychological experience for people living with obesity.

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Background:
Bariatric surgery is the most efficacious treatment for obesity. However, this treatment may be met with apprehension, related to its higher risk profile. Understanding the experiences of people living with obesity who have had bariatric surgery may inform the integration of surgical options into obesity care.

Objective:
To examine patient experience with bariatric surgery outcomes and care.

Methods:
Thirty-one participants were recruited 12 months after bariatric surgery. Semi-structured interviews were completed, and Applied Thematic Analysis was performed.

Results:
Patient experience was described within an overarching theme of the physical and psychological impact of obesity and surgery, and comprised of three subthemes.
1) "Acceptance of pros and cons" described a nuanced understanding of surgery's consequences. Positive outcomes included weight loss, improved comorbidity management, reduced pain, enhanced mood, and increased mobility. Negative consequences involved gastrointestinal complications leading to revisional surgery, severely altered eating habits, and significant mental health challenges, escalating in some, to suicidal ideation.

2) "Dichotomy of views on whether the challenges of surgery were worth it" reflected diverse perspectives. Most participants found postoperative challenges worthwhile for an overall positive outcome. However, some expressed ambivalence or felt the challenges were not justified when expectations did not align with outcomes experienced.

3) "The ongoing stigma of obesity and surgery" highlighted perceived societal and healthcare-related negative judgment and stigma. Participants emphasized the need for consistent person-centred care to improve patient experience.

Conclusion:
This study highlighted that bariatric surgery is both a physical and psychological experience. Despite significant challenges, most participants deemed the surgery worthwhile, although this was not universal. These findings emphasise that bariatric surgery does not overcome the healthcare related stigma felt by people living with obesity. Investment in person-centred care across bariatric services is an expressed need.

Oral

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Bariatric surgery mitigated electrocardiographic abnormalities in patients with severe obesity

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Obesity can lead to cardiovascular dysfunctions and cause electrocardiographic disruptions. Bariatric surgery plays a significant role in weight loss. To assess its benefits, this study investigated electrocardiographic changes before and after bariatric surgery.

The present article describes a retrospective cohort study with a 6-month follow-up period. Electrocardiograms were interpreted and compared before and six months after surgery. The relationships between weight loss, type of surgery, and electrocardiographic alterations were analyzed. A total of 200 patients participated in the study, with 34 (17%) men and 166 (83%) women.

The mean age of the participants was 44.6 ± 8.6, and their mean body mass index was 43.8 ± 5.5 kg/m2 . The mean of QTc decreased after the surgery, while the Sokolow-Lyon scores increased. The statistical analysis showed that QTc dispersion (>40) ($P< 0.001$), right ventricular hypertrophy ($P< 0.001$), abnormal R wave progression ($P< 0.001$), QTc ($P< 0.001$) and Sokolow-Lyon criteria ($P< 0.001$) signifcantly changed postoperatively. In conclusion, bariatric surgery can reduce QTc, correct poor R wave progression, and resolve right ventricular hypertrophy (RVH) in patients with morbid obesity.

Oral

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Bariatric surgery: Clinical outcomes in terms of thromboembolic events from a national high-volume center in Colombia

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Background:
It is well known that populations with obesity have an increased thrombotic risk. Both the surgery itself and the specific characteristics of patients with obesity elevate this risk. Deep vein thrombosis (DVT) and pulmonary embolism (PE) are potentially serious complications due to clinical and anesthetic factors. Therefore, it is crucial to implement thromboprophylaxis strategies to reduce this risk and ensure the safety of patients undergoing bariatric surgery. Even though there are multiple guidelines suggesting thromboprophylaxis schemes, to date, there is no good standard for thromboembolic prophylaxis, and even the exact results of different schemes remain unknown.

Objective:
To determine the rate of thromboembolic events in patients undergoing bariatric surgery at our institution over a period of 2 years.

Materials and methods:
A descriptive cross-sectional study was conducted, in which a sample of 820 patients undergoing bariatric surgery was collected. A dual thromboprophylaxis protocol was used, consisting of mechanical (compression stockings) and pharmacological (enoxaparin 60 mg every 12 hours until discharge). Medical records were systematically reviewed, evaluating variables including demographic data, medical history, anesthetic and surgical variables, and complications with a focus on thromboembolic events.

Results:
The individuals included in the sample had an average age of 38 years, with 79.8% being women, and an average body mass index of 41.8 kg/m2, among others.

Two thromboembolic events were identified, representing 0.24% of the total sample. In terms of their medical history, patients presented with comorbidities such as hypertension and hypothyroidism. In terms of the type of thromboembolic event, one case of deep vein thrombosis and portomesenteric thrombosis were observed. These two events occurred after hospital discharge and received medical management. No associated mortalities were identified.

Conclusions:
The results obtained show outcomes that align closely with those reported in the existing literature. While it is important to acknowledge the observational nature of the study, the results suggest the effectiveness of the implemented thromboprophylaxis regimen, which is in line with international guidelines and could be used safely. Further validation through studies is necessary to evaluate the necessity of thromboprophylaxis and to explore the potential benefits of different thromboprophylaxis regimens.

Oral

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Benefit of exercise after laparoscopic sleeve gastrectomy surgery: 4-year follow-up of recurrent weight gain and glucose profile

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Objective:
This study investigated the effect of exercise following laparoscopic sleeve gastrectomy (LSG) on glucose profile and excess weight loss (EWL) in a 4-year follow-up of female patients affected by obesity and diabetes.

Material and Methods:
All female patients affected by obesity with type 2 diabetes undergoing bariatric surgery in a private hospital were included in this study. Patients were visited 1 and 4 years after surgery. Glucose profile and liver function tests were measured, and a nutritionist examined the body mass indices at follow-up visits. Insufficiently active cohort was defined as having less than 150 minutes of activity per week. The excess weight loss (EWL%) was the main outcome of the surgery, and having EWL less than 50% was defined as poor response cohort.

Results:
A total of 246 female patients with a mean age of 46.93±8.07 years were included. The body mass index (BMI) of patients decreased in 1-year (mean difference (95CI): -12.8 (-12.45, -13.14), P-value<0.001), and 4-year follow-ups (mean difference (95CI): -11.27 (-10.86, -11.67), P-value<0.001). Four years after surgery, 47 patients had poor responses to surgery (EWL<50%). EWL and exercise time was significantly correlated at 4-year follow-up (R= -0.74, P<0.001). Compared to insufficiently active group, the decrease of active cohort was more prominent in HbA1c (mean difference of 0.15 vs 0.37) and BMI (mean difference of 10.48 vs 11.92).

Conclusion:
Maintaining 150 minutes activity level per week can increase the effectiveness of LSG for weight loss and glucose control. Patients exercising for 10 more minutes/week can reach 16% better EWL, and 15% reduction in EWL can result in 1 mg/dL decrease in HbA1c. Further studies are warranted to confirm these results, during which healthcare professionals should monitor patients activity to prevent recurrent weight gain.

Oral

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Body composition's impact on NAFLD resolution: insights from bariatric surgery in an Eastern-Asian context

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Introduction:
In the context of the obesity crisis, bariatric surgery is increasingly recognized as a key strategy for managing non-alcoholic fatty liver disease (NAFLD), offering significant improvements in liver steatosis, inflammation, and fibrosis. This study explores the impact of body composition changes on NAFLD resolution in an Eastern-Asian cohort, utilizing abdominal ultrasound for non-invasive assessment.

Method:
A retrospective analysis of 208 patients undergoing laparoscopic sleeve gastrectomy or Roux-en-Y gastric bypass from August 2016 to October 2023 at an Asian weight management center was conducted. Fifty-five patients with severe obesity, assessed one year post-surgery for body composition and liver condition, formed the study base.We investigated the demographics of patients and the impact of body composition changes on fatty liver disease resolution through logistic regression, considering a p-value of <0.05 as statistically significant.

Result:
Our study group included 37 patients who underwent LSG and 18 who had LRYGB, with an average age of 36.96 years and a pre-surgery BMI of 42.0 kg/m^2. The Aminotransferase-to-platelet ratio index for participants was 0.445 ± 0.46, with values of 0.46 ± 0.04 for LSG and 0.4 ± 0.04 for LRYGB (P=0.439). Total weight loss one year after bariatric surgery averaged 28.27 ± 7.31 kg, and excess weight loss was 65.90 ± 17.22%. Pre-surgery, most participants were diagnosed with fatty liver (Normal 3.6%, Mild 9.1%, Moderate 30.9%, Severe 54.5%, Cirrhosis 1.8%). A year post-surgery, significant liver condition improvements were noted (Normal 50.9%, Mild 32.7%, Moderate 10.9%, Severe 3.6%, Cirrhosis 1.8%), along with a decrease in body fat percentage (from 46.27 ± 6.92% to 34.02 ± 8.12%). Logistic regression showed a significant association between the decrease in visceral fat percentage and the resolution of fatty liver (P=0.04, OR=0.925, CI=0.859-0.996).

Conclusion:
Our findings emphasize the critical role of visceral fat reduction in the remission of NAFLD following bariatric surgery in Eastern-Asian populations. The study confirms bariatric surgery's effectiveness in treating obesity-induced liver conditions and highlights the significance of targeting visceral adiposity. These results advocate for more research to develop tailored treatment strategies that improve NAFLD outcomes, thus enhancing the surgical management of liver diseases.

Oral

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Brain volumetric changes 1 year after SG bariatric surgery.

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Introduction*:*
Obesity is one of the most significant health concerns of the twenty-first century. One of the most efficacious mechanisms to reduce body weight is the sleeve gastrectomy. The aim of this study is to analyze the postoperative anatomical changes 1year after sleeve gastrectomy (SG) in Hispanic females (HF).

Methods*:*
A total of 13 SG Hispanic female patients (average age 39) participated in the study. MPRAGE anatomical scans were acquired using a 3 T Siemens Skyra scanner before surgery and 1 year after SG. Cortical reconstruction and volumetric segmentation was performed with the Freesurfer image analysis suite, which is documented and freely available for download online (http://surfer.nmr.mgh.harvard.edu). This processing method includes motion correction and averaging, removal of non-brain tissue using a hybrid watershed/surface deformation procedure, segmentation of the subcortical white matter and deep gray matter volumetric structures including hippocampus, amygdala, caudate, putamen, ventricles.

Results:
Our results indicate SG in Hispanic females results in the following structural changes: increased hippocampus, amygdala, cerebral white matter and cerebellar volumes.

Conclusion:
Structural changes in hippocampus, amygdala, cerebral white matter and cerebellar volumes take place after SG. These changes may influence perceptions and relationships with food, body habitus, and feelings associated with eating.

Oral

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Burden of anemia and iron deficiency in Indian population with obesity: who came for bariatric surgery

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Background:
Obesity could potentially add to the burden of anemia in India, since the country has experienced an alarming increase in obesity-related chronic diseases over the past decade. Obesity is a serious condition affecting more than 20 to 40% of adults in the India and it has been reported to be associated with anemia. This may be due to up-regulated hepcidin expression that hampers iron absorption.

Aim and objective:
Iron deficiency anemia is common in patients after bariatric surgery, with incidence rates up to 49%, and may be due to hypoabsorption of nutrients. Therefore, we investigated the prevalence before the bariatric surgery between central obesity and iron deficiency anemia among the Indian population with obesity who came for bariatric surgery in our tertiary care centre.

Material and Methods:
A retrospective review of the prospectively established database of all patients who came for bariatric surgery between January 2010 to November 2018. All the data were analyzed according to age and gender, based on the anaemia and iron definition of our institutional guideline of bariatric surgery (hemoglobin Normal > 11g/dl; Iron Normal 60-190 ug/dl)

Results:
A total of 9141 individuals were retrospectively reviewed in this study. Out of this 5024 (54.9%) were female. The mean preoperative BMI was 43.51 ± 8.07kg/m2 and median age was 43 (range 6-80) years. Preoperatively, 1326 (14.5%) of patients had anemia out of this 1024 (77.2%) were female. Iron deficiency had 513 (5.6%) out of this 317 (61.8%) were female. The incidence of anemia and iron deficiency in children was (9.6 %, 8.6%), in younger group was (10.06%, 5.4%), in adult group was (14.92%, 5.7%) and geriatric group was (21.3%, 4.4%).

Conclusion:
Anemia and iron deficiency are frequent in patients with obesity and must be treated before surgery. Geriatric, children and female gender was a variable associated with a greater incidence of anemia and iron deficiency in patients with obesity. Medical and nutritional surveillance is important in the preoperative period of bariatric surgery. Further study required to ensure follow up those patients who has iron deficiency anemia before bariatric surgery.

Oral

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Can the gut microbiome be used as a presurgical biomarker to predict bariatric surgery weight loss outcomes? - a systematic review

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Background:
Recurrent weight gain and suboptimal weight loss continue to remain prevalent after bariatric surgery. Traditional arthropometric measurements for predicting postsurgical weight loss like body mass index (BMI) have limited utility in personalising the bariatric surgical technique. The gut microbiome is significantly correlated with obesity and was altered with bariatric surgery.

Objective:
This review aimed to systematically review the literature and summarise the role of the gut microbiome as a presurgical biomarker in predicting weight loss outcomes.

Methods:
Four electronic databases were systematically searched for articles from the last 10 years till February 2024. Studies were included if they were human studies that investigated the composition of the presurgical gut microbiome and its correlation with postoperative weight loss.

Results:
A total of 8 publications met criteria for inclusion, with 300 patients. Seven studies utilised standard 16s rRNA amplication for the quantitative sequencing of the microbiome. Main surgical procedure investigated was laparoscopic sleeve gastrectomy (LSG) (n=138), though 1 study did not provide an exact breakdown. Most studies investigated the stool microbiome (n=7), followed by salivary and 1 study on duodenal microbiome. 4 studies reported suboptimal weight loss as percentage excess weight loss (%EWL) <50% at 6-month or 12-month. Most studies were heterogenous in nature and no distinct microbial signature correlating with insufficient weight loss was detected uniquely across all studies. Studies investigating only LSG demonstrated a predominance of Firmicutes phyla amongst weight responders and Bacteroidetes phyla amongst weight non-responders, though the genus and species of microbiota enriched were different. Studies involving Roux-en-y gastric bypass (RYGB) showed controversial results.

Conclusion:
Most studies investigated the changes in the microbiome following bariatric surgery, with few focusing on its prognostic role as a biomarker. The role of the gut microbiome as a biomarker remains understudied, and rather than evaluating the individual microbiome composition, future studies should evaluate the role of the microbiome in relation to functional pathways and downstream microbial metabolites.

Oral

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Can the surgeon pick fatty liver at operation? Comparing macroscopic appearance and histology

Ian Michell

The preoperative assessment for patients undergoing Metabolic-Bariatric Surgery involves screening for comorbidities and may include blood tests and physical tests such as spirometry or polysomnography. Identification of Metabolic Associated Fatty Liver Disease by preoperative blood test or ultrasound is inexact. Histology is the best measure and there are validated scoring systems. This study looks at the accuracy of operative macroscopic examination and its ability to identify the presence and degree of MAFLD.

In this retrospective study of liver assessment by one surgeon (IDM), patients with severe obesity were selected for bariatric surgery by usual criteria. At the beginning of operation, a visual assessment of the liver was made and the size, colour and edge sharpness were noted. Size was assessed out of 5 - from 1 (very small) to 5 (almost obscuring the operative field), colour was assessed as dark, mid colour or yellow, Edge was assessed as sharp or blunt. A percutaneous liver biopsy was performed and submitted to histopathology at a single pathology service where a general description and steatosis scoring was reported. The NAS score was given for all cases. The Brunt score was performed where there was significant histopathology.

Results were obtained from 216 cases. Overall, 39 % of patients had a NAS score greater than 2 and 27% had some degree of fibrosis.

Of 105 patients with a normal appearing liver at laparoscopy, 67 had steatosis <10% but 20 had a NAS score >2 and 8 had fibrosis. Conversely, a liver that appeared fatty was normal in 38% of cases.

Conclusion:
MAFLD is common in patients who present with severe obesity warranting surgical management. Macroscopic inspection is helpful in documenting the presence of steatosis, and a formal description of size, colour and shape provides some structure to the report. However macroscopic appearance is poorly correlated with histology, even when the liver appears normal. Routine liver biopsy is simple and low risk. It adds to patient assessment and to the advocacy for surgery.

Oral

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Causes of rehospitalization after bariatric surgery: a single center experience from tertiary care hospital of Peshawar, KPK

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Introduction:
Bariatric surgery has emerged as an effective intervention for severe obesity, contributing to significant weight loss and improved health outcomes. However, rehospitalization post-bariatric surgery remains a concern, necessitating a thorough investigation into the underlying causes. This study focuses on patients who underwent bariatric surgery at KTH, exploring the factors leading to rehospitalization.

Objectives:
The primary objectives of this study are to identify and analyze the causes of rehospitalization in patients who have undergone bariatric surgery at KTH. The research aims to provide valuable insights into the specific complications or issues leading to postoperative hospital readmissions.

Methodology:
This research employs a cross-sectional study design to analyze the cases of rehospitalization following bariatric surgery at KTH. The study cohort includes a total of 540 bariatric surgeries, comprising 54 sleeve gastrectomies, 289 one-anastomosis gastric bypasses (OAGB), and 197 Roux-en-Y gastric bypasses (RYGB). Data is collected on patients who experienced rehospitalization and analyzed to identify common patterns and contributing factors.

Results:
Among the 540 bariatric surgeries performed, various causes of rehospitalization were observed. Notable cases include one patient presenting with liver failure, another with acute abdomen secondary to perforation, and four with postoperative abdominal pain due to intra-abdominal collection. Additionally, six patients experienced vomiting, of whom two underwent endoscopy revealing marginal ulcers in two cases, an anastomotic stricture in one case, and normal findings in three cases.

Conclusion:
The findings from this study highlight specific complications leading to rehospitalization after bariatric surgery at KTH. Understanding these causes is crucial for optimizing patient care and refining surgical approaches. Addressing these complications may contribute to a reduction in postoperative rehospitalization rates, ultimately improving the overall optimal clinical response and safety of bariatric surgery at the institution.

Key Words: Bariatric surgery, Obesity, Rehospitalization.

Oral

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Changes in left ventricular parameters after laparoscopic sleeve gastrectomy in patients with severe obesity

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Background:
Obesity is associated with left ventricular hypertrophy and dilation due to factors such as increased fat volume, insulin resistance, and elevated leptin levels. Recent reports have explored significant changes in left ventricular parameters after BMS, however, consensus remains elusive.

Objectives:
In this study, we investigated relationships between left ventricular parameters and metabolic parameters following LSG in patients with severe obesity.

Methods:
We analyzed data from 75 patients who underwent LSG in our department between August 2018 and February 2023. Preoperative and 1-year postoperative echocardiograms were performed, and metabolic parameters were also measured at the same point. Computed tomography volumetry was used to assess fat distribution. The data was statistically analyzed using correlation analysis.

Results:
Patient characteristics were as follows: mean age 42.4 years, male-to-female ratio 34:41, body weight 118.0 kg, BMI 43.3 kg/m2, 42 patients with diabetes, total fat area (TFA) 784.6 cm^2, subcutaneous fat area (SFA) 534.5 cm^2, visceral fat area (VFA) 247.9 cm^2, left ventricular posterior wall distance (LVPWd) 1.1 cm, interventricular septal distance (IVSd) 1.1 cm, left ventricular mass (LVM) 197.2 g, left ventricular end-systolic diameter (LVDs) 2.9 cm, and left ventricular end-diastolic diameter (LVDd) 4.7 cm. Postoperatively, body weight, BMI, TFA, SFA, and VFA significantly decreased ($p < 0.001$). Echocardiography revealed significant reductions in LVPWd, IVSd, and LVM ($p < 0.001$). There were significant correlations as follows; ΔLVM correlated with ΔTFA, ΔSFA, ΔVFA, and Δleptin ($r = 0.388$, $p = 0.004$; $r = 0.291$, $p = 0.026$; $r = 0.297$, $p = 0.024$; $r = 0.451$, $p = 0.039$), ΔLVDd correlated with ΔTFA, ΔVFA, and Δleptin ($r = 0.272$, $p = 0.031$; $r = 0.246$, $p = 0.044$; $r = 0.463$, $p = 0.014$). ΔLVDs also correlated with ΔTFA, ΔVFA, and Δleptin ($r = 0.283$, $p = 0.024$; $r = 0.294$, $p = 0.015$; $r = 0.480$, $p = 0.011$).

Conclusion:
BMS significantly improved cardiac hypertrophy and was associated with reduced fat volume and improved leptin levels. BMS may contribute to improved cardiac function especially in left ventricular diastolic performance.

Oral

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Characterization of patients undergoing sleeve gastrectomy complicated with leakage in the last 17 years in a subgroup of patients from Concepción, Ch

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Introduction:
74.2% of the Chilean population is overweight, with almost 35% being affected by obesity. Bariatric and metabolic surgery has been the most effective tool for treating this disease so far. Sleeve gastrectomy currently represents the most frequent procedure in metabolic bariatric surgery, with 57.3% of procedures in the United States in 2022. Mortality rates range from 0% to 1.2%, and morbidity rates range from 0% to 17.5%, with notable complications such as leakage (0.8%), bleeding (up to 15%), and portal vein thrombosis (0.42%).

Objectives:
To characterize patients undergoing sleeve gastrectomy complicated with leakage in the last 17 years, in a subgroup of patients from Concepción. Identify predictive factors.

Materials:
Descriptive observational study. Prospective data series from May 2006 to March 2024, involving 1343 patients. Descriptive statistics and Chi-square frequency comparison were employed. Data tabulation and recording were done using Microsoft Excel, with statistical analysis conducted using SPSS version 25 software. All patients were operated on by the same surgeon.

Results:
A total of 1344 sleeve gastrectomies were performed, comprising 1008 women (75.1%) and 335 men (24.9%). The mean age was 34.6 years (standard deviation 9.61), with no gender difference. The mean BMI was 37.06 kg/m2 (3.96). 23 overall complications were reported (1.7%), with 12 in women (1.2%) and 11 in men (3.3%), p=0.011. 11 patients reported staple line leakage (0.8% overall), 6 in women (0.6% of the total) and 5 in men (1.5%), p=0.114. 81.8% were reported in the first third of patients operated, 18.2% in the second third, and none in the last, p=0.002. 72.7% of leakages occurred in the first 200 cases, with no new events reported in the last 600 patients, p=0.001. There were no differences in leakage when sleeve gastrectomy was associated with other procedures such as cholecystectomy, hiatal or abdominal hernioplasty, p=0.560.

Conclusions:
Most leakages occurred in the first third of patients operated, especially in the first 200 cases. The leakage rate decreased progressively to zero in the last 600 cases. The main predictive factor is the experience of the surgical team. There were no differences in the leakage rate when stapling line suturing was performed.

Oral

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Closure of mesenteric defects during Roux-en-Y gastric bypass using cyanoacrylate glue

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Background:
Roux-en-Y gastric bypass (RYGB) is a common surgical procedure for obesity and the management of obesity-related conditions. A potential complication of RYGB is internal herniation (IH) with small bowel obstruction (SBO). To reduce the risk of internal herniation, closure of mesenteric windows is typically performed. This study compared the safety and feasibility of using cyanoacrylate glue to close mesenteric windows with the traditional method of using non-absorbable sutures.

Methods:
A retrospective analysis was conducted of prospectively collected data from 482 patients who underwent primary RYGB at a UK centre between 2015 and 2021. Mesenteric windows were closed with cyanoacrylate glue in 324 patients and non-absorbable sutures in 158 patients. The primary outcome was reoperation for SBO with all patients followed up for a minimum of 2 years. Secondary outcomes were operative time, post-operative complications and cost.

Results:
The mean age was 47.4 years and mean BMI was 44.23. No significant difference was identified in the rate of reoperation for SBO between both groups (9.4% suture group vs. 5.2% glue group, p=0.07). Of the reoperations, 7 were due to IH in both groups (p=0.15). There was no significant difference in other postoperative complications between the two groups. Median operative time was shorter for glue closures (118 minutes vs. 145 minutes, p<0.01).

Conclusions:
This study is the first comparative study to evaluate the use of cyanoacrylate glue for mesenteric window closure. The results suggest that cyanoacrylate glue is a safe and feasible alternative to non-absorbable sutures for mesenteric window closure during RYGB. Further studies are needed to confirm these findings and to investigate the long-term durability of cyanoacrylate glue closure.

Oral

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Combined use of opioid-free analgesia and transversus abdominis plane block for postoperative pain control in bariatric surgery

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Introduction:
It has been demonstrated that opioid-free anesthesia (OFA) techniques reduce the unwanted effects of opioids which could compromise the expedited discharge. OFA should always be associated, whenever possible, with a nerve block of the anatomical area to be operated on, in order to optimize analgesic control. In bariatric surgery patients, the benefits of OFA are more significant. In our centre, in a bariatric protocol, OFA is performed along with ultrasound-guided bilateral transversus abdominis plane (TAP) block.

Objectives:
The objective of the study is to assess the postoperative effect of the combined use of OFA and TAP in the bariatric patient.

Material and Methods:
A single-centre, retrospective, descriptive study of patients undergoing bariatric surgery from January 2022 to January 2024, with analysis of postoperative pain using the visual analogue pain scale (VAS).

Results:
A total of 161 patients (70,2% women, age 50,9 ± 9) were included. The average maximum body mass index (BMI) was 46,05 kg/m2. The most frequent comorbidities were Obstructive Sleep Apnea-Hypopnea Syndrome (OSAHS), arterial hypertension and diabetes mellitus. According to the risk scale of the American Society of Anesthesiologist (ASA), the entire sample was classified as ASA II or III.
OFA was performed in 100% cases and ultrasound-guided TAP in 95% (the remaining 5% could not be performed due to technical difficulties or because it was open surgery).

The average pre-surgical time (monitoring, anesthetic induction, intubation, regional blockade, and patient positioning) was 40,4 minutes. During the stay in the Recovery Room, in the first 6 hours post-intervention 34% of the patients had a VAS greater than 3, requiring analgesic rescue, 27% with morphine and 6,8% with a new TAP block. Upon discharge to the hospital ward, only 3% of patients required analgesic rescue persisting with a VAS greater than 3. The surgical technique that required the most analgesics was gastric sleeve (GS).

Conclusions:
The combined use of OFA and TAP in the bariatric patient is effective for postoperative pain control. Facilitating early mobilization and oral intake in postoperative patients enables a safe discharge in less than 48 hours.

Oral

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Combining transoral fundoplication and endoscopic sleeve gastroplasty: A novel endoscopic approach to treat gastroesophageal reflux and obesity

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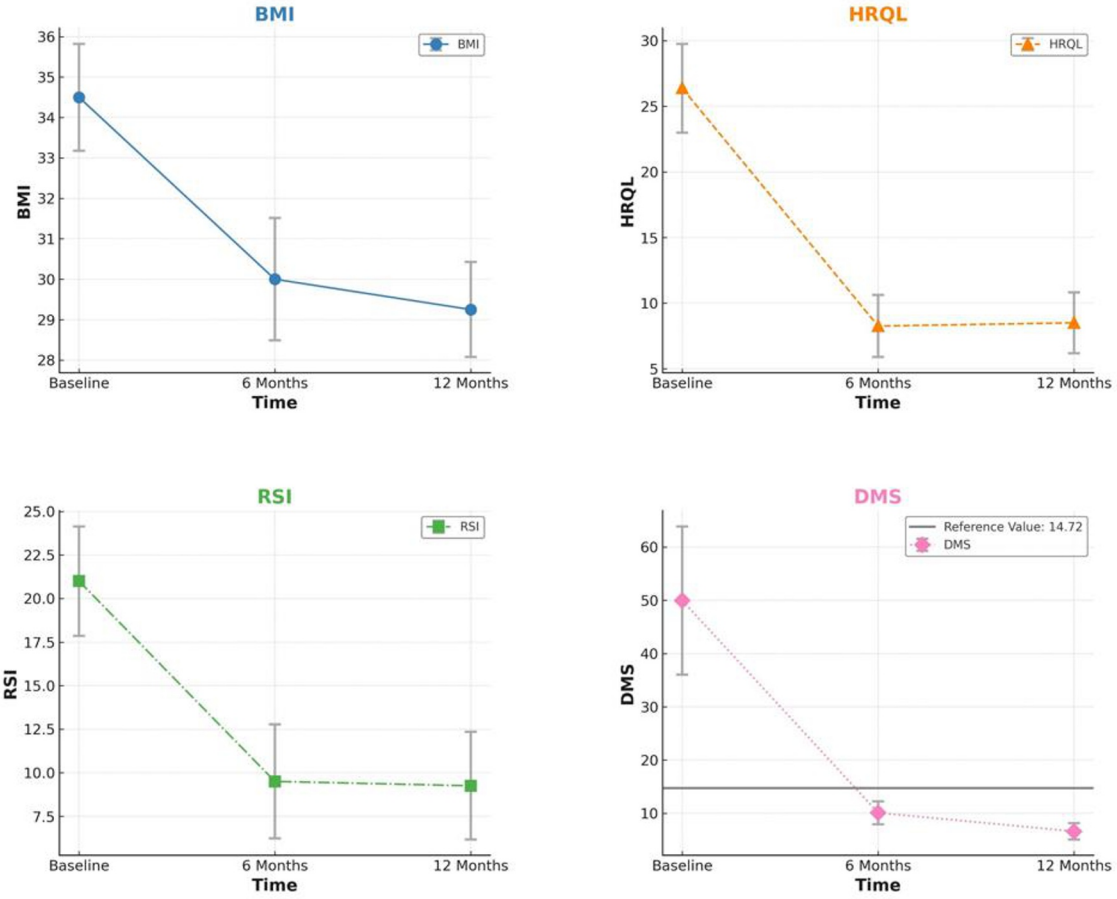
Background:
Obesity-related Gastroesophageal Reflux Disease (GERD) presents a significant clinical challenge, limited by the effectiveness of current treatments. Excess weight impairs the repair of the anti-reflux barrier, and conventional obesity treatments may adversely affect anti-reflux physiology. This study introduces a novel, modular endoscopic technique that aims to augment the antireflux barrier and restrict the gastric volume while preserving the antomy and minimizing disruption to the physiology. It combines Transoral Incisionless Fundoplication (TIF) with Endoscopic Sleeve Gastroplasty (ESG) simultaneously (F-ESG), offering a synergistic solution to both GERD and obesity.

Methods:
A pilot cohort of 8 participants (mean age 39 ± 6.4 years, 75% female, mean BMI 34.5 ± 3.7 kg/m^2) underwent the combined F-ESG procedure, supplemented by diet and exercise counselling. Proton pump inhibitors (PPIs) were tapered off over 6 weeks. Assessments at baseline, 6, and 12 months included BMI, GERD Health-Related Quality of Life (HRQL), Reflux Symptom Index (RSI), and DeMeester Score (DMS).

Results:
Significant improvements were observed across all metrics. BMI decreased from 34.5 kg/m^2 at baseline to 30.0 kg/m^2 at 6 months, and 29.3 kg/m^2 at 12 months ($p<0.01$). GERD HRQL scores improved from 26.4 to 8.3 at 6 months and 8.5 at 12 months ($p<0.01$). RSI and DMS also showed significant reductions, indicating effective GERD management. By 12 months, all participants had stopped PPIs, with 7 achieving a normal DeMeester score on objective PH monitoring, highlighting the F-ESG intervention's success in treating GERD in obese patients (Figure and Table 1).

Conclusion:
The F-ESG approach, merging TIF with ESG, demonstrates significant clinical improvements in managing obesity and GERD. These findings offer a promising, minimally invasive option for addressing the complex relationship between these conditions, suggesting potential for broader application.



	Mean Baseline	Mean 6 Months	Mean 12 Months	SE Baseline	SE 6 Months	SE 12 Months	P-Value 6 Months	P-Value 12 Months
BMI	34.5	30.0	29.2	1.3	1.5	1.2	0.001	0.002
HRQL	26.4	8.2	8.5	3.4	2.4	2.3	0.005	0.005
RSI	21.0	9.5	9.2	3.1	3.3	3.1	0.031	0.025
DMS	50.0	10.1	6.6	13.9	2.1	1.6	0.034	0.019

Oral

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Comparative analysis of single anastomosis sleeve ileal bypass versus sleeve gastrectomy: impact on weight loss, body composition, and comorbidities

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Background:
The Single Anastomosis Sleeve Ileal (SASI) bypass is a novel bariatric surgery technique that merges the benefits of both restrictive and malabsorptive procedures while minimizing the risk of nutrient deficiencies by maintaining passage through all the alimentary tract.

Objectives:
This study aimed to compare the outcomes of single anastomosis sleeve ileal (SASI) bypass and sleeve gastrectomy (SG) concerning weight loss, improvement in comorbidities, body composition changes, and reduction in skeletal muscle mass (SMM) and fat mass (FM) one year after bariatric surgery.

Methods:
A case-matched retrospective analysis was conducted on patients who underwent SG or SASI bypass, with SASI bypass patients matched with an equal number of SG patients based on age, sex, BMI, and comorbidities. The main outcome measures included excess weight loss (EWL) at 6 and 12 months post-surgery, changes in body composition, and improvement in medical comorbidities.

Results:
Out of 110 patients (87 female) with a mean age of 43.0 years, 55 underwent SASI bypass and an equal number underwent SG. At 6 months postoperatively, SASI bypass resulted in significantly higher FM loss compared to SG (27.6 kg vs. 22.1 kg), while other weight loss parameters and body composition changes were similar between the two groups. At the 12-month mark, SASI bypass demonstrated significantly higher total weight loss percentage (%TWL) and FM loss compared to SG (35.2 vs. 31.1 and 44.9 vs. 32, respectively). Moreover, SASI bypass led to better improvement in type 2 diabetes mellitus (T2DM) and dyslipidemia compared to SG (100% vs. 96.4% and 96.4% vs. 83.6%, respectively).

Conclusion:
SASI bypass leads to superior fat mass loss compared to SG at both 6 and 12 months postoperatively, indicating its effectiveness in promoting weight loss and body composition changes.
SASI bypass may offer better results in improving comorbidities such as T2DM and dyslipidemia compared to SG.

Oral

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Comparative analysis of the short-term efficacy and safety of SADI-S and BPD/DS in the treatment of Chinese patients with obesity

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Background:
Metabolic Bariatric Surgery (MBS)has shown greater efficacy in managing obesity and associated metabolic conditions compared to traditional approaches. Internationally, single anastomosis duodeno-ileal bypass with sleeve gastrectomy(SADI-S) and biliopancreatic diversion with duodenal switch(BPD/DS) are commonly used MBS. However, these surgeries are not widely practiced in China, and there is a lack of comparative analysis between them.

Objectives:
To compare the effectiveness and safety of SADI-S and BPD/DS in treating Chinese patients with obesity.

Methods:
We included 44 Chinese patients with obesity undergoing SADI-S or BPD/DS with a 1-year postoperative follow-up from May 2018 to November 2021.The SPSS22.0 method was used to compare the weight loss effect, relief of obesity-related metabolic diseases, and nutritional outcomes between the two groups.

Results:
All 44 patients successfully completed the operation, and no deaths occurred. The average operation time of the SADI-S group was significantly shorter than that of the BPD/DS group(205.41mins vs 267.41mins, $p<0.05$); however, there was no significant difference in average postoperative hospital stay(5.68d vs 8.73d, $p>0.05$) and surgical complications rate(9.09% vs 13.64%, $p>0.05$). The BPD/DS group had lower average weight than the SADI-S group at 12 months after surgery, (74.75kg vs 82.75kg, $p<0.05$), while the average %EWL was higher than the SADI-S group.(97.30% vs 84.62%, $P<0.05$).Both SADI-S and BPD/DS groups had better efficacy for obesity-related metabolic diseases, and there was no significant difference between the two groups($p<0.05$).The incidence of vitamin D deficiency was higher in the BPD/DS group than in the SADI-S group(88.24% vs 9.09%, $p<0.05$); higher serum zinc deficiency was found in both the SADI-S and BPD/DS groups(31.82% vs 47.06%, $p>0.05$); there were no significant differences in other nutritional outcomes between the two groups.

Conclusion:
The incidence and severity of short-term surgical complications with SADI-S are lower than BPD/DS; both SADI-S and BPD/DS have better short-term weight loss effects, but BPD/DS achieves greater short-term weight loss; SADI-S and BPD/DS are equally effective in the short-term treatment of obesity-related metabolic diseases; except for vitamin D, there is no significant difference in the short-term nutritional outcomes between SADI-S and BPD/DS after surgery.

Oral

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Comparing laparoscopic one-anastomosis gastric bypass and single anastomosis sleeve ileal bypass for the treatment of severe obesity and effect on glp

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Background:
Bariatric surgery is thought to be the most successful method of treating severe obesity. The choice of bariatric operation might be challenging because of the presence of different varieties.

Objectives:
This study aimed to compare the laparoscopic one-anastomosis gastric bypass (OAGB) and laparoscopic single anastomosis sleeve ileal (SASI) bypass for the treatment of patients with severe obesity and their effects on glucagon-like peptide 1 (GLP-1) level.

Methods:
This was a retrospective cohort study that included patients with severe obesity who underwent SASI bypass and OAGB procedures. The patients were followed-up for 1 year postoperatively. Patients' weight loss, complications, laboratory changes, and comorbidities were assessed.

Results:
Seventy-nine patients were included in the study (37 SASI and 42 OAGB). There was a significant weight loss at follow-up observed for OAGB and SASI bypass when compared to the preoperative values. However, this difference was not statistically significant between the two procedures at 12 months postoperatively. The operative time, duration of hospitalization, complications, glycosylated hemoglobin, and quality of life were comparable between both procedures. GLP-1 increased significantly in the SASI group compared to OAGB group after 6 weeks postoperative (10.4 vs 9.1, respectively, p=0.01). Complete remission of diabetes mellitus and hypertension occurred in all SASI patients while 87.5% of patients affected by diabetes and 88.9% of hypertensive patients were cured after the OAGB procedure. Other comorbidities were completely cured after both procedures.

Conclusion:
Both SASI and OAGB procedures are comparable regarding safety for weight loss after one year postoperatively. The short-term outcomes are comparable; however, SASI bypass is associated with significantly higher GLP-1 levels than OAGB.

Keywords: one-anastomosis gastric bypass; single anastomosis sleeve ileal bypass; hypertension; bariatric surgery; glucagon-like peptide 1.

Oral

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Comparing OAGB pouch size after side to side or end to side anastomosis

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Introduction:
OAGB is a mixed bariatric method with increasing rate in the world. One of the important parts of this technique is the method of anastomosis between pouch and jejunum. Routinely it performs as side to side anastomosis by stapler. It needs to prepare elongated pouch to prevent esophageal bile reflux. The aim of this study is to present hand sewn end to side anastomosis and its advantages.

Method:
As the method of anastomosis is end to side, the length of pouch is acceptable at the level of incisura, somehow 5 cm less than usual form with the same effective length of pouch. Anastomosis performs between end of pouch and mainly 180 cm distal to Treitz Ligament by two layers with vicryl and PDS or prolen sutures. The diameter of anastomosis is 2 cm and the position of pouch is completely in upper part of jejunum.

Result:
1350 cases of OAGB included in the study from 2007 up to now. The mean BMI was 46 (53 to 34). F to M ratio was 810/540 although the rate of F/M in all of my bariatric operations was 82%/18%. The mean rate of weight loss after 1 year was 68%, 2 years 62% and after 10 years 53%. The rate of clinical bile reflux was 3%. Rate of marginal ulcer was 1%. Gastric bile reflux based on endoscopic study after 6 months of operation was seen in 15% of cases.

Conclusion:
Although the length of pouch is smaller than usual form but the rate of reflux, marginal ulcer and the rate of weight loss during first year is better in compare to traditional form. This pouch has not any antrum mucosa, so the risk of secretion of gastrin by foods and acid secretion is less, so the risk of marginal ulcer is less. The shape of anastomosis is so that the pathway of materials into small intestine is not essentially into stomach so the risk of gastric bile reflux is less. The diameter of anastomosis is smaller, so the restrictive effect of the operation is prominent especially during first year and the

Oral

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Comparison of analysis of skeletal muscle loss after one anastomosis gastric bypass by skeletal muscle mass index vs. bioelectrical impedance analysis

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Background:
Sarcopenia results into suboptimal weight loss and linked to postoperative morbidity and mortality due to malnutrition.
The skeletal muscle mass index (SMI) from magnet resonance imaging (MRI) is increasingly used as a prognostic factor in oncologic and surgical patients, but MRI is not common after bariatric surgery. The bioelectrical impedance analysis (BIA), on the other hand is a commonly used method for the estimation of the body composition of bariatric patients.

Objective:
The aim of this study was to compare the postoperative SMI values as a direct, imaging measured indicator for muscle mass with the BIA results in patients undergoing One anastomosis gastric bypass (OAGB).

Methods:
We performed a prospective single-centre trial. Patients undergoing MGB between January 2017 and December 2020 at Indraprastha Apollo Hospital were eligible for this study. MRI and BIA measurements were obtained 1 day before surgery and at 6, 12 and 24 weeks after surgery.

Results:
A total of 17 patients (four male, 13 females, average age of 41.9 years) were included. SMI values decreased significantly during the postoperative course ($p < 0.001$). Comparing preoperative and postoperative measurements at 24 weeks after surgery, increasing correlations of SMI values with body weight ($r = 0.240$ vs. $r = 0.628$), phase angle ($r = 0.225$ vs. $r = 0.720$) and body cell mass (BCM, $r = 0.388$ vs. $r = 0.764$) were observed.

Conclusions:
SMI decreases significantly after OAGB and is correlated to distinct parameters of body composition. These findings show the applicability of the SMI as direct imaging parameter for the measurement of the muscle mass in patients after OAGB, but also underline the important role of the BIA, as a precise tool for the estimation of patients' body composition at low costs. BIA allows a good overview of patients' status post bariatric surgery, including an estimation of sarcopenia.

Oral

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Comparison of calcium citrate and calcium carbonate absorption in patients with an RYGB, LSG, and OAGB. A double-blind, randomized cross-over trial.

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Background:
The rising prevalence of bariatric metabolic surgery (BMS) and its malabsorptive effects have heightened concerns about postoperative micronutrient deficiencies, particularly calcium (Ca) due to its critical role in bone health. This study aimed to assess the absorption of two calcium formulations, Ca Citrate and Ca Carbonate, following Roux-en-Y gastric bypass (RYGB), Laparoscopic Sleeve Gastrectomy (LSG), and One Anastomosis Gastric Bypass (OAGB).

Method:
A randomized, double-blinded, crossover study was conducted with 150 participants 6 months post-BMS. The study compared the intestinal absorption of Ca Carbonate and Ca Citrate among groups divided by surgical procedure over 8 hours of testing. Measurements included serum and urine calcium concentrations for peak values (Cmax) and area under the curve (AUC), along with minimum parathyroid hormone (PTHmin) levels and cumulative PTH decline (AUC).

Results:
Ca Citrate achieved higher serum Ca Cmax (9.8±0.5 mg/dl) and AUC (76.1±4.0 mg/dl h) than Ca Carbonate (Cmax: 9.5±0.5 mg/dl, AUC: 74.7±3.4 mg/dl h, $p < 0.001$). Additionally, Ca Citrate resulted in significantly lower PTHmin (28±8.6 pg/ml) and PTH AUC (269.5±66.5 pg/ml h) compared to Ca Carbonate (PTHmin: 32±8.9 pg/ml, PTH AUC: 299.1±69.7 pg/ml h, $p < 0.001$). Urinary calcium excretion was also greater with Ca Citrate (83.7±9.4 mg/dl) than Ca Carbonate (68.5±5.3 mg/dl, $p < 0.001$). Analysis by surgical procedure revealed superior serum Ca Cmax and Cmax ratio of Citrate to Carbonate in OAGB over RYGB and LSG.

Conclusion:
Ca Citrate demonstrates enhanced calcium bioavailability compared to Ca Carbonate across all assessed BMS techniques, with particularly notable benefits in OAGB patients. These findings suggest Ca Citrate as a more effective postoperative calcium supplement, potentially offering greater therapeutic value for bone health maintenance.

Oral

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Comparison of enoxaparin dosing for venous thromboprophylaxis in patients with BMI >50 kg/m2 undergoing bariatric surgery: A preliminary result of RCT

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Background:
Venous thromboembolism (VTE) frequently contributes to morbidity and mortality post-bariatric surgery. Severe obesity independently increases VTE risk, targeting prophylactic anti-factor Xa levels of 0.2-0.5 IU/mL. However, guidelines lack a recommended enoxaparin dosing regimen for VTE prophylaxis in patients with body mass index (BMI) above 50 kg/m2.

Objectives:
To evaluate the achieving prophylactic anti-factor Xa levels with different dosages of enoxaparin for patients with BMI >50 kg/m2 and to evaluate incidence of 30-day VTE events.

Methods:
A randomized controlled trial was conducted to compare anti-factor Xa levels at 4 hours following the administration of enoxaparin at Chulalongkorn Bariatric and Metabolic Institute, King Chulalongkorn Memorial Hospital. All recruited patients were randomly assigned to receive either 60 mg or 80 mg of enoxaparin 12 hours prior to the operation. Blood specimens were collected at the 4 hour after the administration of enoxaparin. We performed 30-day postoperative duplex ultrasonography of lower extremities in all patients.

Results:
Between September 2022 and May 2024, 26 participants were randomized. Of these patients, 14 received 60 mg, and 12 received 80 mg of enoxaparin. The mean BMI in both groups were 56.8 ± 5.6 kg/m2 and 54 ± 3.8 kg/m2, respectively (p-value = 0.169). There were no significant differences in body weight, age, and percent body fat between both groups. In both groups, the rates of achieving target levels were 92.3% and 100%, respectively (p-value = 0.347). The mean anti-factor Xa levels at 4 hours were 0.36 IU/mL ± 0.10 IU/mL and 0.41 IU/mL ± 0.10 IU/mL, respectively (p = 0.75). No significant difference was found in the estimated blood loss and bleeding complications between the groups. Additionally, in both groups, no symptomatic VTE occurred, and 30-day duplex ultrasonography showed no DVT in any patients.

Conclusion:
A dose of 60 mg of enoxaparin is as effective as 80 mg in achieving prophylactic anti-factor Xa levels in patients with BMI >50 kg/m2 undergoing bariatric surgery, with no occurrence of VTE events.

Oral

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Comparison of Patients' and Healthcare Practitioners' Evaluation of Patient-Reported Outcomes of Bariatric Surgery – A Modified Delphi Study

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Background:
Patient-reported outcomes of bariatric-metabolic surgery are an important emerging metric increasingly utilised in clinical, research, and registry settings. These outcomes, while vital, are underutilised and require refinement for the specific patient population.

Objectives:
This study aimed to investigate and compare how pre-surgical patients, post-surgical patients, and healthcare practitioners evaluate patient-reported outcomes of bariatric surgery to identify those outcomes that are considered most important.

Methods:
A modified Delphi survey was distributed to patients pre- and post-surgery, and to a variety of healthcare practitioners involved in bariatric care. Across two rounds, participants were asked to rate a variety of physical and psychosocial outcomes of bariatric surgery from 0 (Not Important) to 10 (Extremely Important). Outcomes rated 8 - 10 by at least 70% of participants were considered highly important (prioritised). The highest-rated outcomes were compared between the three groups as well as between medical and allied health practitioner subgroups.

Results:
20 pre-surgical patients, 95 post-surgical patients, and 28 healthcare practitioners completed both rounds of the questionnaire. There were 58 outcomes prioritised, with 21 outcomes (out of 90, 23.3%) prioritised by all three groups, 13 (14.4%) by two groups, and 24 (26.7%) prioritised by a single group or subgroup. Unanimously prioritised outcomes included 'Co-morbidities', 'General Physical Health', 'Overall Quality of Life' and 'Overall Mental Health'. Discordant outcomes included 'Fear of 'Suicidal Thoughts', 'Addictive Behaviours', and 'Experience of Stigma or Discrimination'.

Conclusion:
While there was considerable agreement between stakeholder groups on many outcomes, there remain several outcomes with discordant importance valuations that must be considered. In particular, healthcare practitioners prioritised 20 outcomes that were not prioritised by patients, emphasising the range of priorities across stakeholder groups. Future work will consider these priorities to ensure the resulting measures encompass all important outcomes and are beneficial and valid for end users.

Oral

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Comparison of weight loss and improvement in metabolic syndrome outcomes between endoscopic gastroplasty and lifestyle modifications: a meta-analysis

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TTSH

Introduction:
Endoscopic gastroplasty (EG) is a less invasive method for managing obesity compared to bariatric surgery. However, literature is scarce on its efficacy in weight loss compared to lifestyle modifications (LM). This study aims to perform a meta-analysis to compare outcomes between EG and LM.

Methods:
A systematic search was performed on PubMed, Embase and the Cochrane Library from inception to August 2023. Single-arm studies were excluded. Effect size for dichotomous and continuous outcome variables were expressed as odds ratio (OR) (95% confidence interval (CI)) and mean difference (MD) (95% CI) respectively.

Results:
A total of 5 studies with 1007 patients (EG n=478, LM n=529) were included in the pooled analysis. The mean BMI for EG ranged from 34.8 to 40.5 kg/m2, while the mean BMI for LM ranged from 34.2 to 39.9 kg/m2. Six-month percentage of total body weight loss (%TBWL) (MD: 6.34, 95% CI: 2.89, 9.78) and 12-month %TBWL (MD: 6.43, 95% CIO: 2.62, 10.25) were significantly higher in EG compared to LM. Similarly, 6-month (MD: 21.38, 95% CI: 7.37, 35.39) and 12-month percentage of excess weight loss (%EWL) (MD: 21.59, 95% CI: 2.26, 40.91) was significantly higher in EG compared to LM. EG was also associated with significant improvement in diabetes mellitus (OR 29.10, 95% CI: 5.84, 145.08) and hypertension (OR 2.35, 95% CI: 1.18, 4.70). The incidence of serious adverse events ranged from 2 to 5%.

Conclusion:
EG is safe and effective for weight loss and improvement in metabolic co-morbidities compared to LM alone.

Oral

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Comparison of weight loss outcomes between a novel RYGB revisional technique and sleeve to RYGB conversion in the setting of recurrent weight gain

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Background:
Recurrent weight gain after sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB) is becoming more common and there is limited evidence to guide surgical management. Furthermore, the efficacy of revisional surgery after specific bariatric procedures remains controversial.

Objectives:
This study aimed to evaluate weight loss outcomes and safety of revisional surgery after RYGB and sleeve gastrectomy to better understand the most effective strategy for patients who regain weight after their primary procedure.

Methods:
Retrospective cohort study including all who underwent revisional bariatric surgery for recurrent weight gain after RYGB and sleeve gastrectomy (2020-2022). RYGB revision (RYGB-R) consisted of jejuno-jejunostomy distalization plus sleeve resection of the gastrojejunostomy and gastric pouch, while sleeve gastrectomy revision (SG-RYGB) consisted of conversion with the construction of a 75-100 cm biliopancreatic limb (BPL). Postoperative bariatric outcomes and complications were analyzed.

Results:
A total of 117 patients were included. Sixty-one patients (52.1%) underwent RYGB-R and 56 (47.9%) underwent SG-RYGB. The median age at revision was 47 years. Median preoperative body mass index (BMI) was 42.59 Kg/m^2 for RYGB-R and 45.24 Kg/m^2 for SG-RYGB. SG-RYGB had longer operative times (130 vs. 102 min, p<0.001). After revisional surgery, the median BPL was 175 cm for RYGB-R and 75 cm for SG-RYGB. At 1, 6, and 12 months the median BMI was reduced to 39.14, 35.55, and 32.9 Kg/m^2 for RYGB-R, and was reduced to 41.09, 35.05, and 33.6 Kg/m^2 for SG-RYGB. No significant difference at 12 months (p=0.310). At one year, excess BMI loss (%EBMIL), excess weight loss (%EWL), and total weight loss (%TWL) were 54.47%, 51.87%, and 22.18% for RYGB-R, and were 53.05%, 50.79% and 22.56% for SG-RYGB (p=0.629, p=0.896 and, p=0.441 respectively). The proportion of patients who developed serious complications (internal hernia, small bowel obstruction, deep site infection, marginal ulcer, deep venous thromboembolism) was 4.9% (n=3) for RYGB-R and 8.9% (n=5) for SG-RYGB at 1-year follow-up.

Conclusions:
Both procedures are safe and effective, with substantial improvement in weight loss and low complication rates at one year.


BMI Weight Loss
RYGB-R
SG-RYGB
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
BMI pre-op
BMI 1 month
BMI 6 months
BMI 12 months

Oral

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Completely mechanical gastrojejunal anastomosis, a novel way to perform laparoscopic gastric bypass.

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Clinyco

Background:
Several surgical techniques are commonly used to create the gastrojejunostomy (GJA) in laparoscopic Roux-en-Y (L-RYGB), which continues to be the standard procedure in gastric bypass (GBP) Currently, GJA techniques with linear stapling and hand-sewn are the most utilized, with generally similar outcomes. Since GJA represents a time-consuming stage of the procedure, the search for mechanisms that allow the optimization of its creation poses a strategic opportunity to reduce procedure times.

Objectives:
The aim of this work is to present a completely mechanical GJA (CM-GJA) technique to standardize its creation and reduce operative time during GBP. Additionally, we present and discuss our initial experience and learning curve with this technique during the first years of its implementation.

Methods:
This study presents a retrospective analysis of a prospective cohort of 166 patients who underwent L-RYGB or conversion sleeve gastrectomy to L-RYGB from January 2020 to February 2023, using a CM-GJA technique. Patients were divided temporarily into four groups to evaluate CM-GJA creation time. Analyzed variables included: demographic aspects (age, sex, pre and postoperative body mass index, BMI), surgical aspects (CM-GJA creation times), percentage of excess BMI loss (% EBMIL) at 6 months and GJA related complications.

Results:
The average time for CM-GJA creation was 4.56 ± 0.36 minutes. There was a significant reduction in CM-GJA creation times, with an average of 4.71 ± 0.45 minutes in the first group and 4.40 ± 0.29 minutes in the fourth group. Patients showed a significant BMI decrease at a 6 months follow-up after the surgery, from an average of 41.30 ± 5.73 to 30.71 ± 4.11. 82,5% of patients showed a %EBMIL ≥ 50% and 52,2 % greater than 65%. Complications were recorded in 1.8% patients, all of them were stenosis.

Conclusions:
The implementation of the CM-GJA technique in L-RYGB demonstrated an optimal clinical response, as shown in the learning curve associated with the procedure and in patient outcomes. These findings might support the use of the CM-GJA in L-RYGB, offering a promising tool to reduce procedure times.

Oral

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Concurrent LSG with uvulopalatopharyngoplasty in the treatment of severe obesity comorbid with severe OSA: a retrospective cohort study

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Background and objectives:
This study aimed to evaluate the safety and short-term effect of contemporaneous surgeries (Bariatric surgery plus uvulopalatopharyngoplasty (UPPP)) in the treatment of severe obesity comorbid with severe obstructive sleep apnea(OSA).

Methods:
A retrospective cohort study was performed to identify patients with obesity and severe OSA who underwent laparoscopic sleeve gastrectomy (LSG) with or without UPPP surgeries between December 2019 and December 2021 in our centre. Patients were divided into two groups according to different surgical methods (contemporaneous group [LSG with UPPP] vs LSG only group). Data about surgical safety, OSA remission, and effectiveness of weight loss were collected and analyzed between the two groups before and 12 months after surgery.

Results:
A total of 101 patients were included in this study (contemporaneous group [LSG with UPPP], n=42 vs LSG only group, n=59). There was no significant difference in surgical safety between the two groups, while both OSA and obesity were significantly improved after 12.5±2.1 months postoperative follow-up. The apnea-hypopnea index(AHI) decreased from 68.7±30.4/h to 10.2±7.0/h in the contemporaneous group (P <0.001) and from 64.7±26.2/h to 18.9±9.8/h in the LSG group (P <0.001). Moreover, the AHI decreased to below 5/h in 50% of patients (21/42) in the contemporaneous group while only in 13.5% in LSG group (P <0.001). In the LSG group 20 (34%) patients achieved a reduction in AHI <15 and resolution of daytime sleepiness.

Conclusions:
Contemporaneous surgery (concurrent bariatric and UPPP surgeries) is feasible and an effective option for patients with obesity and severe OSA. However, our finding suggests that approximately a third of patients undergoing LSG with UPPP may not derive significant benefit from the UPPP portion of the contemporaneous surgical approach.

Keywords: obstructive sleep apnea; bariatric surgery; laparoscopic sleeve gastrectomy; uvulopalatopharyngoplasty; obesity.

Oral

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Correlation of the endoscopic esophagogastric junction integrity with symptomatic GERD in patients undergoing work-up for bariatric surgery

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Background:
GERD is a common adverse side effect after bariatric surgery. Therefore, it is important to have a mechanism to determine preoperatively which patients have pre-existing GERD for appropriate counselling and procedural selection. Recently, the American Foregut Society (AFS) proposed a new endoscopic classification aimed at objectively quantifying the EGJ integrity. This system builds upon the Hill classification with 4 grades. Grade 1 represents an intact EGJ while grade 2, 3 and 4 represent partial, moderate, and complete disruption of the ARB. Unlike Hill classification, the AFS classification includes objective measurement of hiatal axial length and aperture diameter.

Objectives:
The aim of this study was to determine if endoscopic examination of the EGJ integrity based on the AFS hiatus classification can predict the degree of symptomatic GERD based on the GERD-HRQL survey.

Methods:
We performed a prospective study of patients with severe obesity who underwent upper endoscopy as work-up for bariatric surgery between February and March 2024. The endoscopy was evaluated for the presence of esophagitis, Barrett's esophagus and evaluating the EGJ integrity based on the AFS hiatus grade. All patients were also surveyed preoperatively with the GERD-HRQL and RSI (Reflux Symptom Index). The relationship between the AFS grades and the GERD-HRQL and RSI scores were analyzed using the Spearman correlation test.

Results:
Fifty-seven patients had preoperative endoscopy (43 women and 14 men) with a mean age of 34 ± 9.9 years and a mean BMI of 42.4 ± 6.8 kg/m2. The AFS grades were distributed as follows: 3 (5.3%) patients had grade 1; 30 (52.6%) had grade 2; 17 (29.8%) had grade 3; and 7 (12.3%) had grade 4. There was a strong correlation between increasing AFS Grades with increasing GERD-HRQL (Correlation coefficient [r]: 0.666, $p<0.01$) and RSI scores (r:0.410, $p<0.01$). Similarly, increasing AFS hiatus grades showed a strong correlation with increasing heartburn (r:0.589, $p<0.01$) and regurgitation scores (r:0.677, $p<0.01$).

Conclusion:
The AFS hiatus classification of EGJ integrity is able to predict preoperative symptomatic GERD in patients undergoing bariatric surgery. This study supports the utility of this classification in clinical practice for evaluating the presence and severity of GERD.

Oral

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Counselling may benefit patients in their decision-making to proceed with bariatric surgical intervention.

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Background:
Despite the known health benefits of bariatric surgery, a substantial proportion of patients referred for consultation do not proceed with surgical intervention.

Objective:
The aim of this study was to evaluate demographic and clinical parameters of patients referred for their first bariatric surgical consultation and to establish whether there was any association with surgical decision-making.

Methods:
Single centre retrospective evaluation of independently completed pre-consultation psychological questionnaires and patient clinical and demographic data obtained from a bariatric surgical database.

Results:
Between January 2019 and January 2023, a total of 621 patients attended for initial consultation at the Bons Secours bariatric service. 71% (n = 439) of patients ultimately underwent bariatric surgical intervention. All patients completed pre-consultation questionnaires. 78% (485) were female, and 22% (136) were male. Mean Beck Depression Inventory (BDI) and Hospital Anxiety and Depression (HAD) scores were 15.6 (± 9.5) and 7.2 (± 4.4), respectively. However, patients not proceeding with surgery had a significantly higher BDI [17 (+/-10.3)] and HAD score [7.9 (+/- 4.4)] than those who ultimately proceeded to surgery. Not surprisingly private insurance coverage was strongly associated with subsequent surgical intervention (67% vs. 26%, p <0.01, Chi-square).57.3% (231 individuals) were diagnosed with GORD. Among these, 170 individuals (65.4%) underwent surgery, while 61 individuals (42.7%) did not undergo surgery (p<0.005).

Conclusion:
Patients not proceeding with surgery after their first bariatric consultation have a higher incidence of depression and anxiety, suggesting a potential role for early psychological intervention.

Oral

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Current recommendations for procedure selection in Class I and II obesity developed by an expert modified delphi consensus

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Purpose:
Metabolic and Bariatric Surgery (MBS) is widely considered the most effective option for treating obesity, a chronic, relapsing, and progressive disease. Recently, the American Society of Metabolic and Bariatric Surgery (ASMBS) and the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) issued new guidelines on the indications for MBS, which have superseded the previous 1991 National Institutes of Health guidelines. The aim of this study is to establish the first set of consensus guidelines for selecting procedures in Class I and II obesity, using an Expert Modified Delphi Method.

Methods:
In this study, 78 experienced bariatric surgeons from 32 countries participated in a two-round Modified Delphi consensus voting process. The threshold for consensus was set at an agreement or disagreement of ≥ 70.0% among the experts.

Results:
The experts reached a consensus on 54 statements. The committee of experts reached a consensus that MBS is a cost-effective treatment option for Class II obesity and for patients with Class I obesity who have not achieved significant weight loss through non-surgical methods. MBS was also considered suitable for patients with Type 2 Diabetes Mellitus (T2DM) and a body mass index (BMI) of 30 kg/m2 or higher. The committee identified Intra-Gastric Balloon (IGB) as a treatment option for patients with Class I obesity and Endoscopic Sleeve Gastroplasty (ESG) as an option for patients with Class I and II obesity, as well as for patients with T2DM and a BMI of ≥ 30 kg/m2. Sleeve Gastrectomy and Roux-en-Y Gastric Bypass (RYGB) were also recognized as viable treatment options for these patient groups. The committee also agreed that One Anastomosis Gastric Bypass (OAGB) is a suitable option for patients with Class II obesity and T2DM, regardless of the presence or severity of obesity-related medical problems.

Conclusion:
The recommendations for selecting procedures in Class I and II obesity, developed through an Expert Modified Delphi Consensus, suggest that the use of standard primary bariatric endoscopic (IGB, ESG) and surgical procedures (SG, RYGB, OAGB) are acceptable in these patient groups, as consensus was reached regarding these procedures. However, randomized controlled trials are still needed

Oral

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Day case bariatric surgery: evaluating feasibility, safety, and outcomes at a tertiary bariatric centre in the United Kingdom.

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Background:
Day case surgery is an established practice in a variety of surgical disciplines and is being increasingly adopted in bariatric surgery. This is advantageous for both patients and healthcare systems.

Objectives:
To assess the viability, safety, and outcomes of day case bariatric surgery at a high-volume tertiary bariatric centre in the United Kingdom.

Methods:
A retrospective review of a prospectively maintained database of patients undergoing Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG) as day cases from October 2019 to February 2024 was undertaken. Patients were selected as per strict pre-defined criteria and discussed at the bariatric MDT to ensure agreement amongst members of the team.

Results:
In total, 107 patients underwent day case surgery, of which 87.9% were female, the median age was 40 years (IQR: 34-48), and 92.5% were ASA III. The median BMI at surgery was 45.8 Kg/m2 (IQR: 41.5-49.2) and RYGB was the predominant procedure (72.9%) followed by SG. The median time from return to ward from theatre and discharge was 16.8 hours (IQR: 5.3-23.0). Notably, 45.8% were discharged on the same calendar day, and only 9.4% stayed more than day 1 post operatively. A large proportion of those unable to go home on the day of surgery was due to non-medical reasons (35.1%). RYGB patients experienced a higher optimal clinical response rate for day case surgery than SG patients (52.6% vs 40.7%, $p<0.021$). Median hospital stay reduced from 27.5 hours in 2019/2020 to 15.9 hours in 2023/2024 ($p<0.001$), whilst the rate of same-day discharges increased (44.7% to 58.7%, $p<0.001$). The re-admission rate within 30 and 90 days was 10.3%, predominantly for nausea. There were no fatalities.

Conclusion:
Day case bariatric surgery is a feasible and safe choice for carefully selected patients, benefiting both patients and healthcare providers. Success relies on meticulous patient selection and adherence to pre-defined criteria. Constant and effective communication between the enhanced recovery team (ERAS), nursing staff, anaesthetists and surgeons is essential to expedite post-operative recovery and therefore have successful outcomes.

Oral

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De novo gastro-oesophageal reflux disease (GORD) after laparoscopic sleeve gastrectomy: a single centre study

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Background:
Laparoscopic sleeve gastrectomy (LSG) is a popular bariatric procedure because of its effectiveness, low side effect profile, and relative simplicity. However, there are concerns over de novo GORD, with rates ranging between 11-36%. GORD results from the balance between pro-reflux and anti-reflux factors resulting from the LSG. Heterogeneity in surgical technique and follow up timing can make it difficult to assess de novo GORD. We studied the incidence of de novo GORD in a single surgeon, single centre setting controlling for variation in surgical technique, bougie size and post-operative follow up.

Objectives:
To investigate the incidence of de novo gastro-oesophageal reflux disease after laparoscopic sleeve gastrectomy controlling for technique and follow-up within a single centre.

Methods:
Retrospective analysis was performed for patients of a single surgeon in a single centre. Inclusion criteria was limited to primary uncomplicated LSG in patients with no pre-operative symptoms of GORD. Patients underwent gastroscopy (OGD) at least 12 months post-surgery where both endoscopic and histological evidence of GORD was assessed.

Results:
The mean age of the 22 participants was 47. Mean preop BMI was 43.3 kg/m2. OGD was performed at an average of 62.2 months after their LSG. 5 patients (21.7%) had reflux esophagitis on histology, while 3 patients (13%) had signs of GORD on OGD. 8 out of 22 patients (36.4%) developed de novo GORD over the follow-up period. Age, gender, follow-up duration and the presence of diabetes had no effect on risk of de novo GORD. Median weight loss was lower in the de novo reflux group (16.65kg vs 19.5kg, p=0.45). Mean post-op BMI was higher in the de novo reflux group (37.91 vs 33.96, p=0.100). Alcohol increased risk of developing de novo reflux (RR1.75, p=0.31, OR 2.5 p=0.32). Smoking was seen to reduce the risk of de novo reflux in this study (RR 0.41, p=0.35, OR 0.36, p=0.4).

Conclusion:
Within the limitations of the study, the incidence of de novo GORD was 36.4%. Post operative BMI and regular alcohol use seemed to increase the likelihood of de novo GORD but this could not be statistically verified. Background Laparoscopic sleeve gastrectomy (LSG)

Oral

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Defining physiological and pathological reflux following sleeve gastrectomy

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Background:
Gastro-oesophageal reflux (GORD) post-sleeve gastrectomy (SG) is a critical issue due to the impact on quality of life, the requirement for re-operation, and potential for Barrett oesophagus. Significant heterogeneity exists in the assessment of reflux post-SG with different functional diagnostic tools.

Objectives:
To determine physiological reflux following SG and discriminate pathological diagnostic criteria of GORD using multimodal assessments.

Methods:
Part 1: Post-SG asymptomatic patients underwent protocolised oesophageal and gastric nuclear scintigraphy, and manometry, compared to matched controls (age, gender, BMI), to define physiological changes post-SG.

Part 2: Post-SG asymptomatic and symptomatic patients underwent nuclear scintigraphy, manometry and 24-hour oesophageal pH monitoring to characterise pathological reflux.

Results:
Baseline demographics post-SG between asymptomatic and symptomatic cohorts were similar: Age 47.2 ±11.6 vs. 44.1 ± 11.3 years (*p=0.121)*; females 73.2% vs. 90.8% (*p=0.005)*; excess weight loss (EWL) 53.8 ±28.1% vs. 57.4 ± 25.5% (*p=0.422),* follow-up duration 12 months.

Part 1: Scintigraphy showed rapid gastric emptying (24.4 ± 11.4 vs. 75.80 ± 45.19 minutes in control, *p<0.001*) and bolus-induced deglutitive reflux was common (29.6% vs. 8.2%, *p=0.017*). Manometry showed low normal LOS basal tone (median 12.6 mmHg) and 56% post-SG with axial separation of lower oesophageal sphincter (LOS) and diaphragm, with a median separation of 3.0cm.

Part 2: Nuclear scintigraphy delineated bolus-induced deglutitive reflux events more common in symptomatic patients (29.6% vs. 62.5%, *p=0.005*) but similar bolus transit and gastric emptying. Manometry parameters were similar, including hiatus hernia prevalence and impaired oesophageal motility. Total acid exposure, supine acid exposure, and number of acid events are significantly elevated in symptomatic patients. Thresholds for distinguishing symptomatic reflux: fasting acid exposure of 2.65% (sensitivity 67.1%, specificity 70.8%).

Conclusion:
Sleeve gastrectomy causes significant physiological changes with rapid gastric emptying and axial separation of LOS and diaphragm. Reflux is strongly associated with SG in particular deglutitive reflux. Elevated oesophageal acid exposure and higher reflux events in nuclear medicine study and pH study were the key pathological features that can be used to determine further intervention and surgical management of GORD.

Oral

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Design and development of a nurse-led program for the management of bariatric surgery patients - The NURLIFE program

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ULSAC

Background:
A nurse-led case-management intervention program may improve the patients' management of the bariatric surgery process. Close collaboration with the healthcare team may improve health and facilitate the adoption of healthy lifestyles, which may enhance surgical results. Completing this project will allow the deepening and exploration of a network, including other areas of assistance, namely mental health and rehabilitation, as well as primary care.

Objective:
The program's primary focus is expected to be health education and motivation for lifestyle changes, promoting healthy lifestyles and physical activity. The improvement of anthropometric data, the lessening of the metabolic risk factors, and quitting smoking and alcohol habits will also be our main achievements.

Methods:
This randomized clinical trial has participants divided into two groups. We use a quantitative outcome evaluation to assess the effectiveness of the intervention and to anticipate indications for future implementation in different clinical settings.

Conclusion:
This project aims to be the first study to investigate the effect of a specialist nurse interventions on patient candidates for bariatric surgery, based on practice-based evidence, while using mixed programs, face-to-face and e-health, on the management and results of bariatric surgery. As such, the contribution of a multidisciplinary team managed by a case manager may be the most efficient intervention.

Trial Registration: NURLIFE randomized controlled trial was prospectively registered at Clinicaltrials.gov (NCT06020105) on July 10, 2023.

Keywords: bariatric surgery; nurse-led; case manager; self-management

Oral

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Determinants of total body weight loss with the liver reduction diet: Insights from a multi-centre study

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Background:
The Liver Reduction Diet (LRD) serves as a critical preoperative regimen aimed at reducing liver size and hepatic fat content to optimize conditions for bariatric surgery. However, despite its significance, variations in weight loss outcomes during LRD have been observed, necessitating the identification of influencing factors.

Objectives:
This study aims to assess weight loss variability during the Liver Shrinkage Diet (LRD) and to identify demographic and clinical factors associated with achieving significant Total Body Weight Loss (TBWL) in patients undergoing bariatric surgery.

Methods:
We conducted a retrospective analysis of 970 patients who underwent the LRD protocol before bariatric surgery between December 2019 and March 2023 across two specialized bariatric surgery units. Demographic variables such as age, gender, ethnicity, and socioeconomic status were collected and analyzed alongside weight changes during the LRD period.

Results:
Of the patients analyzed, 83.4% were female, with a median age of 43 years (IQR: 35-52). The median pre-LRD Body Mass Index (BMI) was 46.8 Kg/m2 (IQR: 41.9 – 51.4). The overall median TBWL achieved during the LRD regimen was 2.6% (IQR: 0.3% - 4.1%), with only 14.7% attaining ≥5% TBWL. Females (22.4%, p=0.003), older individuals (>45 years old, 16.8%, p=0.004), those from socially deprived backgrounds (17.6%, p < 0 .001), and Black Afro-Caribbean patients (31.0%, p=0.009) were more likely to achieve ≥5% TBWL. Multivariable regression analyses revealed that being female (OR: 1.92, 95% CI: 1.24–3.00, p=0.004) and of Black ethnicity (OR: 2.44, 95% CI: 1.39–4.31, p=0.002) significantly increased the likelihood of achieving ≥5% TBWL on the LRD regimen.

Conclusion:
While the Liver Reduction Diet is crucial for preoperative weight management, a minority of patients achieve significant TBWL, with only one in seven reaching the 5% target. Demographic factors such as gender, age, ethnicity, and socioeconomic status play pivotal roles. Further research is warranted to elucidate underlying mechanisms and develop tailored interventions to optimize weight loss outcomes during LRD in diverse patient populations.

Oral

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Development of a novel clinical scoring system to predict moderate to severe obstructive sleep apnea in patients undergoing bariatric surgery

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Background:
Obstructive sleep apnea (OSA) is a common comorbidity in patients with severe obesity undergoing bariatric surgery. As OSA may lead to numerous perioperative complications, pre-operative screening for significant OSA is recommended. However, conducting polysomnography is resource-intensive and time-consuming.

Objective:
We sought to identify predictive factors and develop a scoring system to predict moderate-severe OSA (MS-OSA).

Methods:
This retrospective study was conducted on patients who underwent bariatric surgery at Songklanagarind Hospital from 2014-2023, with a STOP-BANG score >= 3, and received a complete polysomnography study. The study included demographic data, gastroscopic findings, OSA symptoms, clinical examination, and scoring related to OSA. Univariate and multivariate analyses were performed to identify significant predictors of MS-OSA, and a model score was developed using a receiver operating characteristics curve analysis.

Results:
A total of 646 patients were included. The prevalence of MS-OSA (AHI > 15) was 464 (71.7%). Age, male gender, neck circumference (NC), symptoms of snoring, choking, and Friedman Tongue Position (FTP) grade III-IV were independent factors associated with MS-OSA. The optimal cutoff points for age and NC were at 31 years and 42 cm, respectively. Our scoring model, which replaced FTP with BMI > = 45 kg/m2 (1 point) and included age > 31 years (2 points), NC > 42 (2 points), male sex, snoring, and choking (1 point, each), gave the highest area under the ROC curve at 0.80. With a cut-off value of 5, the specificity was at 82.4%, while the positive predictive value was at 90.1%.

Conclusion:
MS-OSA is a co-morbid condition commonly encountered in patients with severe obesity. Apart from routine polysomnography, a clinical scoring system might predict MS-OSA with an acceptable specificity. Perioperative management should be directed to those patients at high risk to reduce the need for a sophisticated test.

Oral

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Development of the Postoperative Adjusted Percentile Tool (PAPT) for weight evolution assessment after gastric bypass

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Hospital del Mar

Background:
Assessing and communicating weight evolution after laparoscopic gastric bypass (LGBP) can be challenging. Percentage of total weight loss (%TWL) outcomes must be interpreted within defined postoperative timeframes and subgroup-specific expectations.

Objectives:
To develop a digital tool that provides percentile charts of %TWL over time, dynamically modeled by key baseline variables influencing post-operative weight trajectories.

Methods:
A collaboration between the Spanish Bariatric Surgery Society and the Spanish Surgeons Association led to a multicentric study involving the retrospective databases of 18 national bariatric centers. All consecutive primary LGBP procedures without postoperative complications in patients aged 18 to 65 years and an initial BMI from 35 to 80 kg/m2 were included. The dataset comprised age, sex, preoperative type 2 diabetes (T2D) status, initial body mass index (BMI), and postoperative weight evolution data. First, a Generalized Additive Model for Location, Scale, and Shape (GAMLSS) was developed using the "gamlss" package in R. GAMLSS models do not return mean values but generate probability density functions, enhancing the ability to capture complex non-linear relationships within the data. Finally, a user-friendly Web App tool was created.

Results:
The study encompassed 4,060 patients who underwent surgery between 1998 and 2023. Of these, 76.2% were female and 29% had T2D. Mean age was 44 (±10) years and mean BMI 46 (±6) kg/m2. Follow-up rates at 3, 6, 12, 18, 24, 36, 48, and 60 months postoperatively were 42%, 79%, 82%, 58%, 67%, 56%, 17%, and 25%, respectively.
After a Box-Cox transformation of %TWL, a GAMLSS model with a BCT distribution was fitted. The dataset was split into an 80% training set and a 20% test set for model validation. Its performance was analyzed using Bland-Altman and worm plots. The root mean squared percentage error was 12.9%.
Based on this model, the Web App "Postoperative Adjusted Percentile Tool" (PAPT) generates tailored percentile curves of expected %TWL over time, according to individual baseline patient characteristics. It also displays the patient's situation visually over their chart.

Conclusions:
PAPT is an innovative resource that offers a straightforward, precise, personalized, and visually engaging way to monitor weight evolution after GBP.

Oral

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Diagnostic criteria for oesophageal motility testing following sleeve gastrectomy: peak isobaric pressure rather than conventional criteria

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Background:
The significance of oesophageal motility and dysmotility are unclear following Sleeve Gastrectomy (SG). Oesophageal function is intrinsic to the nature of this procedure and is altered in the short and long term. The assessment of oesophageal motor function as established criteria are not validated or useful for clinical decision making post-SG. We hypothesized that changes in intraluminal pressures may be of importance and explain severe symptoms of reflux or dysphagia.

Objective:
We aimed to define and compare intraluminal pressure profiles and patterns of esophageal motility in a large cohort of patients post-SG.

Methods:
Participants >12 months post-SG were categorised into asymptomatic (n=41) and symptomatic (reflux n=196 and dysphagia n=18) group. Additionally, a group of patients with anatomically normal stomach was used as controls (n=7). All patients underwent high resolution manometry (HRM).

Results:
Demographic data in asymptomatic vs symptomatic as follows: (age: 46.7 ± 11.2 vs 40.2 ± 9.5 years, p=0.299), (female; 75% vs 85%, p=0.061), (%EWL; 51.8 ± 30% vs 59.3 ± 24%, p=0.087). Overall, oesophageal peristalsis was impaired in 24% (n=10) of the asymptomatic group compared to controls (n=0), p=<0.001. Oesophageal motility was notably affected in the symptomatic group (73%), p=0.009. The dysphagia group (11%) primarily were diagnosed with hypercontractile swallows and majority of patients (28%) had outflow obstruction, p= 0.012. The Chicago Classification criteria (CCC) did not differ between the controls and SG groups. We noted an increase in isobaric intragastric pressures (IGP) both in the supra and infra-diaphragmatic stomach post-SG. The asymptomatic group had a significantly higher peak IGP vs controls (16.4 IQR (10.9-18.9) mmHg vs 0.9 IQR (0.6-4.6) mmHg), p= 0.015. The dysphagia group had a notably much higher median IGP of 33.9 IQR (22.2-50.5) mmHg, p=0.038. The multivariate regressions delineated IGP as the best diagnostic measure for symptom severity post-SG (OR 1.12; CI 1.04-1.22), p=0.021. The probability of having symptoms post-SG increased by 12% for every 1 mmHg increase above 17mmHg of IGP.

Conclusion:
We have established novel standardised HRM values for post-SG patients. IGP of >17mmHg appear to reliably correlate with symptom severity post-SG. Elevations above 17mmHg in IGP increases the risk of reflux and dysphagia. The CCC does not discriminate asymptomatic and symptomatic patients following SG.

Oral

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Does the third lumbar vertebral skeletal muscle index (L3SMI) predict weight loss in patients post metabolic bariatric surgery?

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Background:
Sarcopenia is correlated with poor post-operative outcomes in a variety of disciplines. This has never been studied in patients with obesity undergoing Metabolic Bariatric Surgery.

Objectives:
The aim of this study is to determine whether the third lumbar vertebra skeletal muscle index (L3SMI) predicts weight loss post Metabolic Bariatric Surgery.

Methods:
The L3SMI was calculated for patients using pre-operative CT scans performed for any reason, including non-surgical purposes. Pearson correlation was undertaken to determine if pre-operative L3SMI influenced weight loss at 12 and 24 months.

Results:
A total of 72 patients were included in the study, of whom 84.7% were female and the median age was 47.0 (IQR: 39.3-57.5). The BMI at surgery was 43.5 Kg/m2 (IQR: 40.8 – 48.6) and the median reduction in BMI was 13.7 Kg/m2 (IQR: 7.1 – 16.6) at 12 months and 13.5 Kg/m2 (IQR: 6.5-17.2) at 24 months. The median L3SMI was 52 cm2/m2 (IQR: 50-57) for females and 56 cm2/m2 (IQR: 49 – 65) for males. Patients with a higher L3SMI pre-operatively had a significantly greater reduction in BMI at both 12 months (r=0.78, p=0.031 and 24 months (r=0.81, p=0.028).

Conclusion:
Patients with a higher L3SMI are more likely to see a greater reduction in BMI in the first 2 years post bariatric surgery. This study may provide a targetable patient factor amenable to optimisation in the pursuit of an optimal clinical response to Metabolic Bariatric Surgery.

Oral

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Double-tract reversal of Roux-en-Y gastric bypass

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Background:
Laparoscopic Roux-en-Y gastric bypass (RYGB) has emerged as a safe and effective treatment for severe obesity and obesity-related comorbidities. Despite such, a select number of patients develop treatment-refractory symptoms that warrant surgical reversal. Normal anatomical reversal (NAR) remains technically challenging and has been associated with significant post-operative morbidity and mortality.

Objectives:
We present double-tract reversal (DTR) as an alternative to NAR for the management of treatment-refractory symptoms following RYGB.

Methods:
A retrospective review of all patients who underwent DTR of RYGB across two high-volume bariatric surgery centres between February 2019 and February 2024 was performed. Demographic data, indications for reversal, operative parameters, post-operative symptom resolution, weight progression, and morbidity and mortality outcomes were recorded. Results were compared to reported outcomes for NAR.

Results:
Eleven patients underwent DTR of RYGB during the study period. All patients were female, and the mean age was 52 years. Mean weight and BMI were 66.9 kg and 25.2 kg/m2. Median time from RYGB to DTR was 27 months (3-140 months). Indications for reversal were malnutrition (n=4, 36%), early dumping syndrome (n=4, 36%) and postprandial hypoglycaemia (n=3, 25%). All procedures were laparoscopic and there were no conversions to open. Median length of stay was 2 days (1-7 days). Two (18%) patients developed clinically significant complications requiring endoscopic intervention within a 30-day period. One patient developed stenosis of the neo-gastrojejunostomy, requiring endoscopic balloon dilatation. The other developed delayed emptying of the recanalised gastric remnant requiring Botulinum toxin type-A injection to the pylorus. There were no anastomotic leaks, reoperations or readmissions within a 30-day period. There was no mortality in our series. All patients experienced complete symptom resolution following DTR. Most patients (n=10, 91%) experienced recurrent weight gain after DTR. Mean total weight loss (TWL) after index RYGB was reduced by 10% at 6 months following DTR. Median follow-up after DTR was 8.7 months (2-24 months).

Conclusions:
DTR appears non-inferior to NAR for resolution of treatment-refractory symptoms following RYGB. Moreover, early morbidity and mortality outcomes are superior to those reported for NAR. Overall, DTR of RYGB is feasible, effective and safe when performed by experienced surgeons within a high-volume bariatric surgery centre.

Oral

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Duodenal-ileal self-forming magnetic anastomosis in patients with suboptimal weight loss or recurrent weight gain following sleeve gastrectomy

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Background:
Magnetic anastomosis can reduce complications such as leaks and bleeding and reduce complex procedure steps and time to create a safe anastomosis. We report the procedure feasibility and 30-day results of a new surgical technique and new self-forming nitinol magnetic anastomosis procedure (SNAP-PS) and delivery devices on post-sleeve gastrectomy patients.

Methods:
Prospective non-randomized single-centre trial. Surgery included creating a side-to-side duodenal-ileal anastomosis approximately 300cm from the IC valve using a new self-forming magnetic (SFM) octagonal anastomosis. The proximal SFM was deployed through the working channel of an endoscope, and the distal SFM through a 5mm laparoscopic trocar.

Results:
A total of 04 patients were recruited, with a mean age of 49.5 (33-62) years, sex-ration (33.3%) of 75% female and initial BMI of 41.7±7.5 kg/$m^{2.}$ The mean Hemoglobin A1c was 12.9±1.0. All procedures were performed using a combination of endoscopy and laparoscopy. There was no conversion or peri-operative mortality. All SFMs were delivered and connected with no delivery malfunctions and completed in an anastomosis creation time of 18 minutes (enterotomy to magnet coupling). No procedure adverse events (AE) occurred, and NO AD happened during the 30-day follow-up period.

Conclusion:
Preliminary and procedure feasibility data of these new devices suggest that SNAP-PS procedures are feasible and safe and, based on prior studies, provide a minimally invasive surgical option for patients who need additional weight loss and improved comorbidities. Further follow-up is required.

Oral

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Early-life body mass index has a causal relationship with type 2 diabetes: multivariate and mediated mendelian randomization analysis

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Objective:
Early-life physical characteristics may reflect the health status throughout the entire lifespan, potentially laying the groundwork for certain chronic diseases. In adults of the same height, there may not be a significant difference in weight between sedentary individuals and those who exercise regularly, making the use of BMI in adulthood a less rigorous method for assessing overweight or obesity. The increase in body mass index (BMI) during childhood is mainly associated with an increase in subcutaneous and visceral fat, with less likelihood of confounding from non-fat tissues such as muscle and bone. Furthermore, childhood BMI, which persists through adolescence into adulthood, is often used to assess the risk of developing various cardiovascular diseases and type 2 diabetes (T2D).

Methods:
A multivariate Mendelian randomization analysis was employed to determine the causal relationship between early-life BMI and T2D. Additionally, mediation analysis was conducted on potential risk factors to assess their mediating effects.

Results:
Early-life BMI, insulin resistance, fasting glucose, and glycated hemoglobin (HbA1c) all showed a positive correlation with the risk of developing T2D later in life. These risk factors remained significant even after adjusting for metabolic factors. The Mendelian randomization odds ratios (OR) for these associations were: early-life BMI (OR = 1.698, 95% CI: 1.327 to 2.174, p = 2.63-5); fasting glucose (OR = 2.123, 95% CI: 1.453 to 3.100, p = 9.86-5); fasting insulin (OR = 1.547, 95% CI: 1.171 to 2.044, p = 2.14-3); HbA1c (OR = 1.099, 95% CI: 1.240 to 1.399, p = 4.65-4). High-density lipoprotein was found to be a protective factor against T2D (OR = 0.859, 95% CI: 0.797 to 0.926, p = 7.82-5); however, no causal relationship was identified between low-density lipoprotein and T2D. Mediation analysis on dietary habits, sedentary behavior, and physical activity showed a complete mediation by dietary habits. The mediating effect of low-sugar dietary behavior was -13.06 (-8.59 to -0.47; p = 0.029), with a mediation proportion of 6.05% (36.27% to 75.84%).

Conclusion:
There is a positive association between early-life BMI and the risk of developing T2D in the future. Dietary habits serve as a potential mediating factor.

Oral

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Effect of balance and core strengthening exercises on falls Activities of Daily Living (ADL) and quality of life in geriatric patients after bariatric

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Background:
Obesity is a prevalent and growing health concern worldwide, affecting individuals of all ages. Bariatric surgeries are often recommended for individuals with severe obesity to achieve substantial weight loss. However, the postoperative period is associated with unique challenges, particularly in geriatric patients, such as falls, reduced functional independence, and diminished quality of life.

Objective:
This study aimed to determine whether a structured exercise program focused on balance and core strengthening could reduce the incidence of falls, improve activities of daily living (ADLs), and enhance the overall quality of life in geriatric patients after bariatric surgeries.

Methodology:
A total of 148 geriatric patients (aged 65 and above) who had undergone bariatric surgeries at our centre were enrolled in the study. Participants were divided into two groups: an intervention group that participated in a 12-week balance and core strengthening exercise program and a control group that did not receive the intervention. Baseline data on falls, ADLs, and quality of life were collected. These measures were re-assessed at the end of the 12-week intervention period. Descriptive statistics and inferential analyses, including t-tests and chi-squared tests, were employed to evaluate the differences between the two groups.

Results:
The intervention group demonstrated a significant reduction in falls, with a 30% decrease compared to the control group. Improved ADL performance was observed in the intervention group, as evidenced by a 20% increase in independence in daily activities. Additionally, participants in the intervention group reported a higher quality of life score, indicating a significant improvement in their overall well-being and satisfaction with life.

Conclusion:
This study highlights the positive impact of balance and core strengthening exercises on reducing falls, enhancing ADLs, and improving the quality of life in geriatric patients after bariatric surgeries. The findings suggest that a structured exercise program tailored to the needs of this specific population can be a valuable adjunct to post-bariatric surgery care. Further research, including randomised controlled trials, is needed to confirm and expand upon these promising results.

Oral

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Effect of bariatric surgery on regression of endometrial cancer as part of fertility sparing management

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Background:
Obesity is a risk factor for endometrial cancer (EC). Standard treatment for EC involves a total hysterectomy and bilateral salpingo-oophorectomy especially in post-menopausal females. However, with trends in rising incidence of endometrial cancer in younger females, increasing prevalence of obesity and increasing delayed childbearing in reproductive females, fertility sparing treatment for EC is becoming more significant. Weight reduction has been shown to reduce risk and overall mortality of EC. Bariatric surgery (BS) can lead to dramatic and sustainable weight loss but there is still a paucity of data of BS as an adjunct therapy for fertility sparing treatment.

Objective:
We aim to demonstrate early regression and continued remission of EC in tandem with sustained weight reduction for all patients on fertility sparing treatment who also underwent BS.

Methods:
This was a retrospective case series study on patients who were on fertility sparing treatment for EC and underwent BS for severe obesity at a single institution from January 2021 to December 2023. Clinical data was collected and analysed.

Results:
Seven patients, with a median age of 32 years, were identified. The median pre-operative body mass index (BMI) was 40.7. All underwent laparoscopic sleeve gastrectomy. The median percentage of total body weight loss was 18.2% at 3-months post operatively. Five achieved EC regression within 6 months of BS. One was still positive for malignancy on endometrial sampling. Out of the five, one conceived via in-vitro fertilization (IVF) and another via natural conception. The IVF patient had a natural delivery with no antenatal complications but had recurrence 27 months post BS and underwent a total laparoscopic hysterectomy with pelvic lymph node sampling. There were no complications or mortalities.

Conclusion:
BS has the potential to be an integral part of fertility sparing treatment. Patients should be managed in a multi-disciplinary setting, comprising specialists from the gynae-oncology and bariatric surgery teams. Further prospective studies with a longer follow up period are necessary.

Oral

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Effect of stoma size on outcomes of OAGB (a randomised control trial)

Rajkumar Palaniappan

Background:
One anastomosis gastric bypass is one of the most popular bariatric surgeries in the world and is the second most performed procedure in India. Despite the popularity due to the significant outcomes and resolution of comorbidities, there is a paucity of high-quality evidence to guide surgeons in determining the optimal stoma diameter. Previous studies have shown conflicting results and have often been limited by small sample sizes or retrospective designs (Han et al., 2018).

Objectives:
Primary: We have evaluated effect 30mm, 45 mm 60mm stoma size of OAGB in outcomes such as postoperative weight loss (BMI change %, %EWL, %TWL) nutritional deficiencies, post-operative complications and quality of life.

Secondary: Outcome based on the site of anastomosis, either anterior or posterior

Methods:
This is a randomised control study. where patients were randomly distributed into three groups. Total 45 patients were grouped into three groups of 30mm,45mm,60mm size stomas. This single unit study was done over a period of 1 year at Apollo Hospitals, Chennai. The end points measured were excess weight loss, resolution of comorbidities, nutritional deficiencies and quality of life.

Results:
In our study we did not find any significant statistical difference in outcomes among different stoma sizes. The percentage of BMI change, excess weight loss and total weight loss percentage were same along all the groups. The resolution of comorbidities was similar as well. There was no noticeable difference in the position of anastomosis in terms of postoperative outcomes like weight loss, resolution of comorbidities and complications like dumping and biliary reflux.

Conclusion:
The size and site of the stoma doesn’t matter in the outcome of OAGB. There is no statistical significance between stoma size of 30mm. 45mm and 60 mm. The limitation of study is that the sample size is small and need long term and multicentre study to support the claim.

Oral

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Effects of bariatric surgery on rapid remission of NAFLD: an exploratory metabolomics and validation study: a prospective cohort study

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Objective:
To examine the associations between alteration of plasma metabolites and the effects of bariatric surgery on rapid remission of non-alcoholic fatty liver disease (NAFLD), and to further validate the results in a general population-based cohort.

Summary of Background Data:
Bariatric surgery is a promising procedure to induce substantial weight loss and to alleviate NAFLD in short post-surgical period, but the underlying causal associations related to metabolomics are unclear.

Methods:
Ten participants with NAFLD who underwent bariatric surgery in the Base-NAFLD cohort were enrolled. Clinical assessments, MRI, and plasma metabolomics were assessed right before surgery and 3-month after surgery. Temporal associations of body mass index (BMI) reduction, changes in metabolites, and NAFLD remission were quantified by using cross-lagged models. These were then validated in a general population-based cohort of 1,258 participants with measurements of liver steatosis, plasma metabolomics, and genetics data using Mendelian randomization.

Results:
In the 10 participants (mean age 35.6, 80% women) undergoing bariatric surgery, liver steatosis was alleviated 3 months after surgery as assessed by MRI. Of the 64 metabolites quantified, 19 metabolites showed significant differences between pre-and post-surgery (false discovery rate-corrected $p<0.05$). Temporal associations were observed between BMI reduction and 5 metabolites, while 3 metabolites (chenodeoxycholic acid [CDCA], palmitoylcarnitine, and hippuric acid) were further validated in the general population-based cohort. CDCA was able to explain 18% of the association between BMI reduction and NAFLD remission ($p<0.05$). In the general population-based cohort, Mendelian randomization showed that genetically elevated CDCA level was associated with a higher risk of liver fibrosis.

Conclusions:
CDCA, a bile acid metabolite, mediated causal effects of bariatric surgery on the rapid remission of NAFLD. It may also predict liver fibrosis improvement following bariatric surgery.

Oral

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Efficacy of bariatric surgery for patients with obesity complicated with obesity hypoventilation syndrome at 6-month follow-up

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Background:
The prevalence of obesity hypoventilation syndrome (OHS) is increasing worldwide. Although particularly high rates are observed in candidates for metabolic and bariatric surgery (MBS), few studies have addressed the post-surgical outcomes on OHS. This study was to evaluate the effectiveness of MBS on OHS at 6-month follow-up.

Methods:
This pilot study was conducted between January 2020 and December 2022 in an MBS center of a university-affiliated tertiary hospital. Clinical data, including body mass index(BMI), arterial blood gas(ABG), portable sleep study results, and anthropometric parameters, were recorded pre- and postoperatively. Correlations between variations and the risk factors for OHS resolution were analyzed.

Results:
Among all 957 MBS candidates, 105 cases were complicated with OHS (BMI 40.1 ± 7.2 kg/m2 and PaCO2 48.5 ± 4.0 mm Hg) and finally enrolled in this study (16.3% lost to follow-up). At the 6-month follow-up, BMI decreased to 28.9±5.4 kg/m2 (P < 0 .001) and PaCO2 dropped to 44.4±4.8 mm Hg (P < 0 .001), while PaO2 rose to 101.9±27.6 mm Hg (P = 0.002). PaCO2 decreases were significantly correlated with weight loss (r = 0.264, P = 0.007), BMI loss (r = 0.282, P = 0.004), and percent total weight loss (%TWL) (r = 0.210, P = 0.049). In nonlinear analysis, PaCO2 did not decrease until %TWL surpassed around 25%. Multivariate analysis showed that preoperative ABG pH < 7 .35 and preoperative hypertension were independent risk factors for resolution of OHS after MBS.

Conclusions:
MBS may be an effective treatment for MBS candidates complicated with OHS. Resolution of OHS requires %TWL to reach a sufficient level.

Keywords: Obesity hypoventilation syndrome; Metabolic and bariatric surgery; Obesity; Risk factors

Oral

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Efficacy of exercise in reducing the symptoms of peripheral neuropathy due to vitamin B12 deficiency after bariatric surgery

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Background:
Peripheral neuropathy is a known complication following bariatric surgery, often attributed to vitamin B12 deficiency. Neuropathies can significantly affect an individual's physical and mental well-being. Exercises act as a conservative treatment option to enhance nerve function.

Aim:
The study aimed to assess the effectiveness of exercise in mitigating peripheral neuropathy symptoms in patients who underwent Bariatric Surgery

Methodology:
The study included 265 patients who underwent surgery in 2022. Participants were categorised based on their exercise habits: regular, irregular, or no exercise. We evaluated the impact of exercise on neuropathic pain, burning sensations, tingling, numbness, and overall quality of life. Neuropathy symptoms were assessed using questionnaires, including S-LANSS, SF-12, and NPRS.

Results:
The study comprised 265 patients with a mean age of 46.85 years and an even gender distribution. These patients experienced a significant weight reduction, with an average loss of approximately 40-50 kilograms over one year. Participants were categorised into non-exercisers (27%), irregular exercisers (30%), and regular exercisers (43%). The influence of exercise on neuropathy symptoms was evident. Regular exercisers reported lower S-LANSS scores, indicating reduced neuropathic pain, in contrast to non-exercisers and irregular exercisers. Regular exercise was associated with improved quality of life. The analysis of the VAS score revealed significant differences between the three groups. The exercise demonstrated a notable effect on reducing pain sensitivity. The SF-12 scores, reflecting overall health-related quality of life, exhibited significant differences between the three groups.

Conclusion:
Exercise emerged as a practical and feasible therapy for alleviating neurological symptoms associated with vitamin B12 deficiency following bariatric surgery. The findings suggest that exercise contributes to an improved quality of life and reduced pain sensitivity in patients experiencing peripheral neuropathy post-surgery.

Oral

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Efficacy of low dose Semaglutide 1.0 mg for the treatment of recurrent weight gain or suboptimal clinical response after bariatric-metabolic surgery

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Background:
Recurrent weight gain after bariatric-metabolic surgery is multifactorial, not uncommon and clinically challenging. Other than lifestyle modification or revision/conversional surgery fewer adjuvant non-surgical therapies exist. Weight loss medications to prevent and manage excess weight after bariatric-metabolic surgery are now being recommended.

Objectives:
To determine the efficacy of low dose semaglutide 1.0mg following recurrent weight gain or suboptimal clinical response following bariatric-metabolic surgery (BMS).

Methods:
This was a retrospective analysis of a prospectively collected data base of patients prescribed semaglutide 1.0mg s/c weekly following adjustable gastric banding (LAGB), sleeve gastrectomy (LSG), one anastomosis gastric bypass (OAGB) or conversional surgery. Data are reported as categorical values using either parametric or non-parametric statistics.

Results:
36 patients (48.5±10.5yrs) were available for analysis: 89% female with a mean (+/-SD) baseline weight and BMI of 89.4±17.2kg, 33.6 ±6.3kg/m^2, respectively. There were 25 patients following LSG, 3 following OAGB and 8 following conversional procedures (4 LAGB to LSG, 2 LAGB to OAGB and 2 LSG to OAGB). Patients regained an average of 8.9kg +/- 6.9kg, or 11.5% of body weight. All patients received semaglutide between 0.5 to 1.0mg s/c weekly, at a median follow up of 4 yrs (2.2 – 5.1yrs, 25^{th} -75^{th} interquartile range) post bariatric/metabolic surgery. The median duration of adjuvant drug treatment was 9.4 months (5.6-16 months; interquartile range). This was associated with a median TBWL% of 12.3% (6.5-16.2%; interquartile range). 97% had lost >5% TBWL, 58% >10% TBWL, 33.3% > 15% TWBL. Adverse side effects were minor and reflected clinical trial non-surgical cohorts.

Conclusion:
Semaglutide 1.0mg is associated with significant weight loss in patients with recurrent weight gain or suboptimal clinical response following BMS, and should be considered an important part of bariatric-metabolic surgery after care.

Oral

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Efficacy of tirzepatide on patients with type 2 diabetes and chronic kidney disease; a prospective, two-arm, observational study

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Background:
Tirzepatide, the world's first dual glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypepide (GIP) receptor agonist, has demonstrated overwhelming efficacy of weight loss and glycemic control for people living with obesity and type 2 diabetes (T2D). However, the efficacy and safety in these people complicating chronic kidney disease (CKD) has not been investigated.

Objectives:
The objectives of this study were to examine the effect of Tirzepatide switching from conventional GLP-1 receptor agonist on individuals with T2D and CKD.

Methods:
We conducted a prospective observational study of Japanese individuals with T2D and CKD for 6 months (registry No. UMIN000051344). Eligible individuals were those who had treated by dulaglutide for at least 3 months with glycated hemoglobin (HbA1c)≧7.0% and estimated glomerular filtration rate (eGFR)≦60 mL/min/1.73m2. The participants were each 25 individuals by Tirzepatide (TZP group) and by continuing conventional treatment of dulaglutide (control group). The dosing regimen of Tirzepatid was started at 2.5 mg and increased to 5 mg after one month and maintained. We evaluated the change of various metabolic parameters at the beginning of and 6 months after the observation between the two groups. The primary outcome was the change of HbA1c and secondary outcomes were changes in metabolic parameters including body weight, the urine albumin-creatinine ratio (UACR) and eGFR.

Results:
At present, 30 individuals (TZP 15 individuals, control 15 individuals) have completed the study. The body mass index at the beginning of observation were TZP 27.0 ± 4.4 kg/m^2, control 27.6 ± 6.5 kg/m^2, respectively (*P*=0.74). After 6 months, HbA1c significantly improved in TZP group (TZP -1.2 [-1.8, -0.7] %, control -0.1 [-0.2, 0.8] %, P<0.01). Body weight also significantly decreased in TZP group (TZP -1.2 [-1.8, -0.7] %, control -0.1 [-0.2, 0.8] %, P<0.001). Although UACR didn't show significantly changes between two groups, the changes of eGFR tended to increase in TZP group (*P*=0.06).

Conclusion:
Our results demonstrated dramatically weight loss and hypoglycemic effects of Tirzepatide even in individuals with CKD. With respect to renal function, correction of glomerular hyperfiltration might be expected and might not appear to aggravate it in the least.

Oral

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Eight-year experience with double pigtail stent drainage for the management of post-bariatric surgery complications in the United Arab Emirates

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Background:
Bariatric and metabolic surgery (BMS) is the most effective treatment for obesity. Despite the low risk of complications, leaks continue to pose treatment challenges. Endoscopic Internal Drainage (EID) with double pigtail stents (DPS) has become a very useful technique for management of leaks. Data supporting its use is limited.

Objective:
The objective of the study is to assess the efficacy of EID with DPS for the management of leaks after BMS in the United Arab Emirates.

Methods:
All patients who underwent DPS Internal drainage after BMS between May 2017 and February 2024 were retrospectively reviewed after IRB approval.

Results:
Thirty-two patients underwent EID with DPS during the study period. The cohort was 59.4% female with a mean age of 34.9 years. The median time from index operation to endoscopic stent placement was 65 days (8-3332). Primary bariatric procedures included sleeve gastrectomy (n=23, 71.9%), Roux-en-Y gastric bypass (n=7, 21.9%), and One-anastomosis gastric bypass (n=2, 6.3%).

Ten patients (31.25%) required stent exchange. Six patient (18.7%) required 1 repeat stent exchange, two patient (6.25%) required 2 stent exchanges, one (3.12%) required 4 stent exchanges and one (3.12%) required 5 stent exchanges. Symptomatic improvement occurred in all the patients and early oral intake (48 hours) was initiated in (87.5%) patients. Optimal clinical response for resolution of the leak was achieved in thirty (93.7%) patients. Only one (3.13%) patient had complications during stenting and one (3.13%) patient had to be admitted to the ICU. No adjuncts to stent therapy were required. There were no mortalities at a mean follow-up of 7 months.

Conclusion:
In this cohort of patients from the UAE, EID with DPS appears to be safe and effective for the management of staple and anastomotic leaks after BMS. EID with DPS should be considered for chronic or complex cases of leaks following bariatric surgery.

Oral

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Endoscopic duodenal mucosal resurfacing for lowering fasting blood glucose in patients with type 2 diabetes: a clinical case report

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Objective:
The long-term use of hypoglycemic drugs can increase metabolic burden on the liver, while diet and exercise interventions often fail due to lack of adherence, leading to loss of glycemic control. Metabolic bariatric surgery, although effective for long-term glycemic control, is irreversible and not suitable for patients with normal weight, limiting its applicability as a universal treatment option. Recently, attention has been drawn to Duodenal Mucosal Resurfacing (DMR), an endoscopic procedure that reshapes the duodenal mucosa and has been shown to lower fasting blood glucose levels in Type 2 Diabetes Mellitus (T2DM) patients. Therefore, we recruited a group of T2DM patients for DMR treatment to assess its efficacy and safety in improving glycemic control, reducing dependency on hypoglycemic drugs, and enhancing other metabolic indicators.The study aims to explore alternative treatments for T2DM beyond the conventional methods of dietary control, exercise intervention, medication, and bariatric surgery.

Method:
A single-channel flexible endoscope was introduced into the duodenum to perform radiofrequency ablation on the duodenal mucosa.

Results:
One month post-DMR, patients discontinued all hypoglycemic medications, with fasting blood glucose levels reduced to 6.0 mmol/L (pre-treatment level of 7.0 mmol/L) and postprandial glucose levels at 2 hours post-meal reduced to 11.8 mmol/L (pre-treatment level of 15.7 mmol/L). The HbA1c level was reduced to 6.2% (pre-treatment level of 7.1%). At 6 months post-procedure, patients experienced a weight loss of 2.1 kg (pre-treatment weight of 75.4 kg), with HbA1c further reduced to 6.0%. At the 18-month follow-up on February 19, 2024, fasting blood glucose levels were controlled at 5 mmol/L, postprandial blood glucose at 8.5 mmol/L, and a total weight loss of 3.4 kg was observed.

Conclusion:
DMR treatment effectively reduces fasting blood glucose levels and decreases dependency on hypoglycemic medications in T2DM patients, suggesting a comprehensive metabolic improvement. This indicates the potential of DMR as a novel intervention for managing T2DM, offering a promising alternative for patients seeking to improve their glycemic control and overall metabolic health without the irreversible changes associated with bariatric surgery.

Oral

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Endoscopic sleeve gastroplasty 5 years data: what happened to our patients after 5 years

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Background:
Bariatric endoscopy has emerged as a non-surgical option for treating obesity and its associated comorbidities. While initial outcomes of endoscopic sleeve gastroplasty (ESG) have been published, a long-term perspective on the effects of this procedure is crucial. This study aims to provide insights into the weight loss patterns and comorbidity improvements over a minimum 5-year follow-up period following ESG in a single academic center in India.

Aim:
This report emphasizes the long-term outcomes of ESG, focusing on weight loss patterns and the post-procedure improvements in comorbidities.

Methodology:
In this prospective cohort study, ESG procedures were performed by the same surgeon on patients with a body mass index (BMI) greater than 30 kg/m2 (or >27 with comorbidities) for obesity treatment. The patients were systematically followed annually after the procedure, and data on primary and secondary outcomes were collected and analyzed.

Results:
A total of 941 patients, predominantly female (69.3%), with an average age of 40.70 ± 12.66 years and a mean BMI of 34.30 ± 5.05 kg/m^2, underwent ESG. Follow-up rates at 1, 2, 3, 4and 5 years were 90.1%, 77.2%, 70.7%, 67.8%, and 65.9%, respectively. The mean percentage total body weight loss was 12.19% (95% confidence interval [CI]: 11.12–13.18), with 90% of participants maintaining a percentage of total weight loss of ≥5% and 70% maintaining an excess weight loss (EWL) of ≥25% at 5 years. Furthermore, comorbidities, such as type 2 diabetes mellitus (T2DM), hypertension, dyslipidaemia, and obstructive sleep apnea, showed significant improvements with remission rates of 51.2%, 65.8%, 73.6%, and 89.9%, respectively. Importantly, there were no cases of emergency interventions, mortality, or significant morbidity.

Conclusions:
This study demonstrates the favourable long-term outcomes of ESG at 5 years in a single academic center in India. Regular multidisciplinary monitoring supports sustained weight loss, comorbidity resolution, and improved quality of life with low perioperative complications. More studies are needed to determine the extent and durability of weight loss outcomes and medical interventions following ESG.

Oral

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Endoscopic sleeve gastroplasty: results from a single surgical bariatric centre

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Aim and rationale:
The aim of this study was to evaluate the safety and efficacy of the endoscopic sleeve gastroplasty (ESG) in patients not candidate for bariatric surgery due to severe comorbidities or low Body Mass Index (BMI).

Methods:
This is a prospective observational series of patients. ESG was carried out via multiple multi-bite sutures across the greater curvature of the stomach. The patients underwent a water-soluble swallow test on post-operative day 1 (POD-1) to assess gastric patency and emptying and were then offered a soft diet if and discharged the same day.

Results:
From January 2019 to April 2024, 65 patients underwent ESG. In particular 22 of them had severe obesity with comorbidities, including post liver-transplant status, end-stage kidney disease, severe cardiovascular and respiratory diseases. The mean BMI before treatment was 37± 6 kg/m 2.

Two patients (3%) experienced gastric bleeding on POD-1 and were successfully treated with packed red blood cells (PRBC) transfusions.
After a mean follow-up of 18 months, the percentage of total body weight loss (%TBWL) and the percentage of excess weight (%EWL) were 12± 6 and 46 ± 35, respectively. This latter was significantly higher in the patients with an initial BMI < 40 kg/m2 ($p < 0.05$). The patients whose gastric sleeve extended for more than a third of the length of the stomach had better results ($p< 0.05$).

Conclusions:
ESG proved to be effective and safe even in high-risk surgical patients. Larger series and longer follow-up are needed to confirm these results in high risk patients.

Oral

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Enhanced recovery after bariatric surgery: a retrospective analysis of 100 consecutive laparoscopic sleeve gastrectomy cases

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Background:
The introduction of Enhanced Recovery After Surgery (ERAS) protocols in various surgical disciplines has been associated with significant improvements in postoperative outcomes, including reduced length of hospital stay and decreased complication rates. Bariatric and Metabolic Surgery (BMS), commonly complicated by multiple obesity-related comorbidities, presents an opportunity to evaluate the effectiveness of ERAS protocols in this high-risk patient population.

Objective:
This study aimed to assess the impact of ERAS protocols on postoperative recovery following laparoscopic sleeve gastrectomy (LSG) at an acute care community hospital in Japan.

Methods:
We conducted a retrospective analysis of 100 consecutive patients who underwent LSG. Patient demographics, surgical details, and postoperative outcomes were collected and analyzed. The primary outcomes were length of hospital stay and postoperative complications. Secondary outcomes included operative time, blood loss, and readmission rates within one month post-discharge.

Results:
The study population had an average age of 43 ± 10 years, with 35 males and 65 females. The mean preoperative weight and Body Mass Index (BMI) were 112.8 ± 28.7 kg and 41.7 ± 7.8 kg/m2 respectively. The mean operative time was 125 ± 30 minutes, and the mean blood loss was 8.4 ± 35 ml. Implementation of the ERAS protocol resulted in an average hospital stay of 2.3 ± 1.9 days. Only one postoperative complication was reported, a urinary tract infection leading to sepsis, which was successfully treated with antibiotics. There were no perioperative deaths, and no patients were readmitted within one month of discharge.

Conclusion:
The introduction of ERAS protocols in the context of BMS, specifically LSG led to excellent postoperative outcomes, characterized by a short hospital stay and a low complication rate. These findings underscore the potential benefits of adopting ERAS protocols in the management of patients undergoing bariatric surgery. Further studies with larger sample sizes and prospective designs are warranted to validate these results and explore the long-term effects of ERAS on patient outcomes in BMS.

Oral

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Enhancing competency in bariatric-metabolic surgery: the Impact of simulation-based training on surgeon's experience

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Background:
The Roux-en-Y gastric bypass (RYGB) is the second most performed bariatric-metabolic surgery, with the laparoscopic RYGB (LRYGB) being the preferred approach. Nevertheless, the learning curve for a LRYGB requires between 50 and 150 cases to reach competency, and over 500 cases to significantly reduce morbidity. Our team has developed and validated a simulation-based training program focused on LRYGB-related skills, but its impact on surgeons's clinical development has not been assessed.

Objectives:
This study aims to evaluate the perceptions of participants after a bariatric-metabolic surgery simulation-based training course (BSC), exploring potential effects on their surgical exposure and development.

Methods:
A cohort study was conducted among trainees who completed the simulation course between 2018 and 2023. An online survey assessed participants' perceptions of the course's impact on: surgical experience, proficiency, exposure to cases, confidence, and clinical outcomes. Descriptive statistics are presented.

Results:
Between 2018 and 2023, 110 trainees successfully completed the BSC. Of these, 23 participants (21%) responded to the follow-up survey. Prior to the course, 74% were practicing general surgeons, 13% were general surgery residents, and 91% reported being involved in either emergency or gastrointestinal surgeries. In terms of laparoscopic experience, 65% declared having performed over 100 laparoscopic procedures as the primary surgeon; this proportion increased to 91% by the time of the survey. When evaluating the perceived impact of the BSC, 78% of respondents reported significant skill enhancement. Furthermore, 78% and 86% of participants noted increased surgical exposure and greater confidence in their surgical abilities, respectively, since completing the training. While acknowledging that clinical improvements are influenced by multiple factors, 87% reported reduced operative times after the training. Consistently, 96% of respondents believed that the training had significantly improved their clinical outcomes contributing to a reduction in complications.

Conclusions:
Feedback from trainees highlights a simulation course's role in enhancing surgical skills, confidence, and exposure to complex cases. While it is recognized that attaining surgical competency is influenced by multiple factors, this study contributes valuable trainee-centred evidence supporting the positive impact that structured simulation-based training can have in a surgical career.

Oral

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Esophageal contractile reserve as a predictor of post bariatric surgery esophageal dysmotility

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Background/Objectives:
Multiple rapid swallows (MRS) is a provocative test during high-resolution esophageal manometry (HREM) to assess for contractile reserve (CR), which has prognostic value in esophageal dysmotility and gastroesophageal reflux disease (GERD). CR is the ability of the esophagus to amplify a contraction after five swallows in rapid succession. CR is defined as a post-MRS distal contractile integral (DCI) greater than the mean single swallow DCI. Deglutitive inhibition (DI), also evaluated during MRS, is a necessary process where swallowing temporarily inhibits the peristaltic contractions of the esophagus. DI helps prevent rapidly propagated or simultaneous contractions, which can be seen in esophageal dysmotility. Following bariatric surgery (BS), patients may develop GERD and/or esophageal dysmotility. This study evaluates CR's and DI's association with dysmotility and GERD in patients who underwent HREM following BS.

Methods:
We evaluated HREM studies from May 2008 to December 2023 in patients who underwent Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG). We included adult (age 18 years or greater) patients that had postoperative HREM and ambulatory pH monitoring. Groups were compared with the Fisher's exact test or independent samples T-test.

Results:
Twenty-seven patients matched inclusion criteria for the study. Sixteen (59.3%) patients underwent RYGB and 11 (40.7%) SG. The median age was 56 (25-70) and 20 (74.1%) patients were female. HREM was normal in 12 (44.4%) patients. Six (22.2%) patients had ineffective esophageal motility, 1 (3.7%) absent peristalsis, 2 (7.4%) distal esophageal spasm, 1 (3.7%) hypercontractile esophagus, and 5 (18.5%) esophagogastric junction outflow obstruction. Thirteen (56.5%) of 23 patients with MRS had CR. There was no difference between patients with and without CR and findings of GERD by acid exposure time or DeMeester score. Twelve (52.2%) patients had breakthrough contraction during the MRS sequence.

Conclusions:
CR was preserved in 57% of patients following BS, similar to prior studies of patients without BS. There were no differences in the incidence of pathologic acid reflux by presence of CR. However, at least half (52%) of patients had breakthrough contraction during the MRS sequence suggesting abnormal deglutitive inhibition. This may be a predictor for the development of future esophageal dysmotility and warrants further investigation.

Oral

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Esophageal function, acid and none-acid reflux after one-anastomosis gastric bypass – manometry, impedance-24h-pH-metry and gastroscopy

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Background:
One-Anastomosis Gastric Bypass (OAGB) is the third most common bariatric operation for patients with obesity worldwide. One concern about OAGB is the presence of acid and non-acid reflux in a mid- and long-term follow-up. The aim of this study was to objectively evaluate reflux and esophagus motility by comparing preoperative and postoperative mid-term outcomes. SETTING: Cross-sectional study; University-hospital based.

Methods:
This study includes primary OAGB patients (preoperative gastroscopy, high-resolution manometry (HRM), and impedance-24h-pH-metry) operated at Medical University of Vienna before 31st December 2022. After a mean follow-up of 4.1 ± 2.9 years, these examinations were repeated. Additionally, history of weight, remission of associated medical problems (AMP) and quality of life (QOL) were evaluated.

Results:
A total of 50 patients were included in this study and went through all examinations. Preoperative weight was 125.5 ±21.0kg with a BMI of 44.6 ±5.4kg/m2, total weight loss after 4.1 ±2.9 years was 40.8 ±8.2%. In addition, remission of AMP and QOL outcomes were very satisfactory in this study. In gastroscopy, anastomositis, esophagitis, Barrett´s esophagus, and bile in the pouch were found in: 38.0%, 34.0%, 6.0%, and 48.0%. Results of HRM of the lower esophageal sphincter pressure were 28.0 ±15.6mmHg, which are unchanged compared to preoperative values. Nevertheless, in the impedance-24h-pH-metry, acid exposure time and DeMeester score decreased significantly to 1.6 ±1.4% (p=0.001) and 10.3 ±9.6 (p=0.046). Further, the total number of refluxes were equal to preoperative, however, the decreased acid refluxes were replaced by non-acid refluxes.

Conclusion:
This study has shown decreased rates of acid reflux and increased non-acid reflux after a mid-term outcome of primary OAGB patients. Gastroscopy showed signs of chronic irritation of the gastrojejunostomy, pouch, and distal esophagus, even in asymptomatic patients. Follow-up gastroscopies in OAGB patients after 5 years may be considered.

Oral

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Establishing a prediction model for perioperative complications of single-port laparoscopic sleeve gastrectomy

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Background:
Single-port laparoscopic sleeve gastrectomy (SPLSG) has been a common practice in our bariatric and metabolic surgery department. However, it seemed that not all SPLSG patients deemed practical to underwent single port procedure. Identifying important factors to understand better which patients can be suitable for single port procedure is crucial.

Objectives:
To investigate the risk factors for perioperative complications of SILSG and to establish a prediction model.

Methods:
The clinical data of 161 patients with obesity who underwent SILSG at our hospital from March 2023 to December 2023 were retrospectively analyzed. Age, gender, BMI, abdominal subcutaneous fat thickness and other indicators were collected. Logistic regression analysis was used to analyze the risk factors for perioperative complications and a nomogram prediction model was drawn and validated.

Results:
Eight patients (5.0%) had perioperative complications. Univariate analysis showed that age, BMI, and abdominal subcutaneous fat thickness were related to perioperative complications of SILSG ($P < 0.05$). Multivariate logistic regression analysis showed that age [OR=1.20, 95%CI (1.06, 1.35), $P < 0.05$], BMI [OR=1.18, 95%CI (1.02, 1.36), $P < 0.05$], and abdominal subcutaneous fat thickness [OR=4.02, 95%CI (1.41, 11.49), $P < 0.05$] were independent risk factors for perioperative complications of SILSG. The nomogram prediction model constructed based on the results had good accuracy and predictive ability, with an area under the ROC curve of 0.94.

Conclusions:
Age, BMI, and abdominal subcutaneous fat thickness are independent risk factors for perioperative complications of SILSG. The prediction model established in this study can provide reference for clinical decision making.

Table 1. Different complications observed in our single port cases

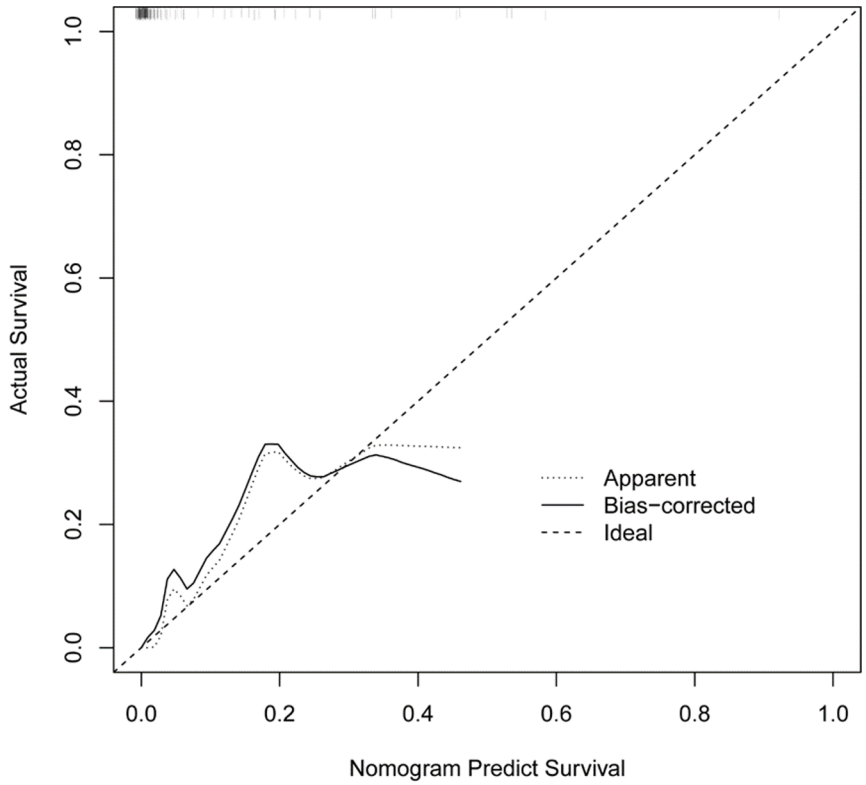
Type of Complications	No. of Cases	Clavien-Dindo Classification					
		Grade 1	Grade 2	Grade 3a	Grade 3b	Grade 4	Grade 5
Incisional Hernia	3	-	-	-	3	-	-
Leak	2	-	1	-	1	-	-
Mesenteric venous embolism	1	-	1	-	-	-	-
Surgical Site Infection	1	-	1	-	-	-	-
Pneumonia	1	-	1	-	-	-	-

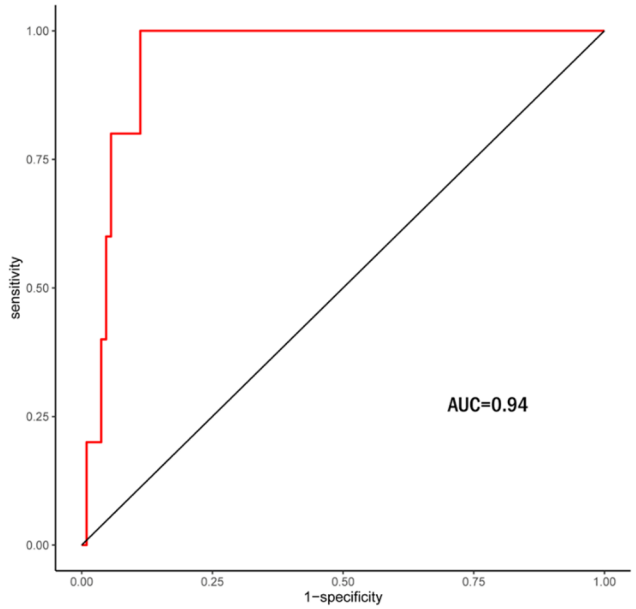
Table 2. Baseline characteristics of patients undergoing single port laparoscopic sleeve gastrectomy

	Without Complications (n=153)	With Complications (n=8)	P 值
Male	30/19.6%	4/50%	0.107
Female	123/80.4%	4/50%	-
Age [M(IQR)，y]	31.0 [27.0, 39.0]	41.0 [37.0, 43.5]	0.019
BMI [M(IQR)，kg/m²]	35.4 [32.2, 40.5]	42.1 [41.1, 45.3]	0.003
Waist Circumference [M(IQR)，cm]	113.0 [106. 0, 126.5]	120.0 [112.5, 124.5]	0.405
Hip Circumference [M(IQR)，cm]	120.0 [114.0, 131.0]	128.0 [119.0, 132.5]	0.206
Abdomen subcutaneous fat thickness [M(IQR)，cm]	3.63 [3.07, 4.69]	5.50 [5.13, 6.02]	0.000
Visceral fat content [M(IQR)，cm²]	177.38[133.47, 212.99]	162.14[133.99,262.76]	0.833
	-	-	-
Metabolic Associated Steatohepatitis[n/%]			
With	98/64.05	5/62.50	1.000
Without	55/35.95	3/37.50	-
	-	-	-
Hypertension [n/%]			
With	43/28.10	3/37.50	0.863
Without	110 /71.90	5/62.50	-
	-	-	-
Hyperlipidemia [n/%]			
With	119/77.78	6/75.00	1.000
Without	34/22.22	2/25.00	-
	-	-	-
Diabetes Mellitus [n/%]			
With	18/11.76	2/25.00	0.577
Without	135/88.24	6/75.00	-
Fasting Blood Glucose [M(IQR)，mmol/L]	5.6[5.0, 6.4]	5.3 [5.1, 6.4]	0.740
HbA1c [M(IQR)，%]	5.8 [5.5, 6.5]	5.7 [5.6, 5.9]	0.954
Fasting C-peptide [M(IQR)，ng/ml]	4.6 [3.3, 5.8]	4.3 [3.7, 5.2]	0.541
Fasting Insulin [M(IQR)，pmol/L]	24.2 [16.6, 39.9]	21.0 [16.8, 30.2]	0.343

Table 3. Univariate and multivariate logistic regression analysis on the risk of perioperative complications after single port laparoscopic sleeve gastrectomy

	Univariate logistic		Multivariate logistic	
	OR（95%CI）	P-value	OR（95%CI）	P-value
Gender	4.1(0.97-17.34)	0.055	-	-
Age	1.08(1.01-1.16)	0.034	1.20(1.06-1.35)	0.003
BMI	1.12(1.03-1.23)	0.007	1.18(1.02-1.36)	0.028
Waist Circumference	1.02(0.98-1.07)	0.336	-	-
Hip Circumference	1.03(0.98-1.08)	0.187	-	-
Abdomen subcutaneous fat thickness	3.82(1.72-8.49)	0.001	4.02(1.41-11.49)	0.009
Visceral Fat	1.00(0.99-1.01)	0.677	-	-
Metabolic Associated Steatohepatitis	0.94(0.22-4.06)	0.929	-	-
Hypertension	1.53(0.35-6.70)	0.569	-	-
Hyperlipidemia	0.86(0.17-4.44)	0.854	-	-
Diabetes Mellitus	2.50(0.47-13.34)	0.283	-	-
Fasting Blood Glucose	1.00(0.80-1.24)	0.977	-	-
HbA1c	1.19(0.70-2.03)	0.525	-	-
Fasting C-Peptide	0.84(0.56-1.26)	0.392	-	-
Fasting Insulin	0.97(0.92-1.02)	0.256	-	-

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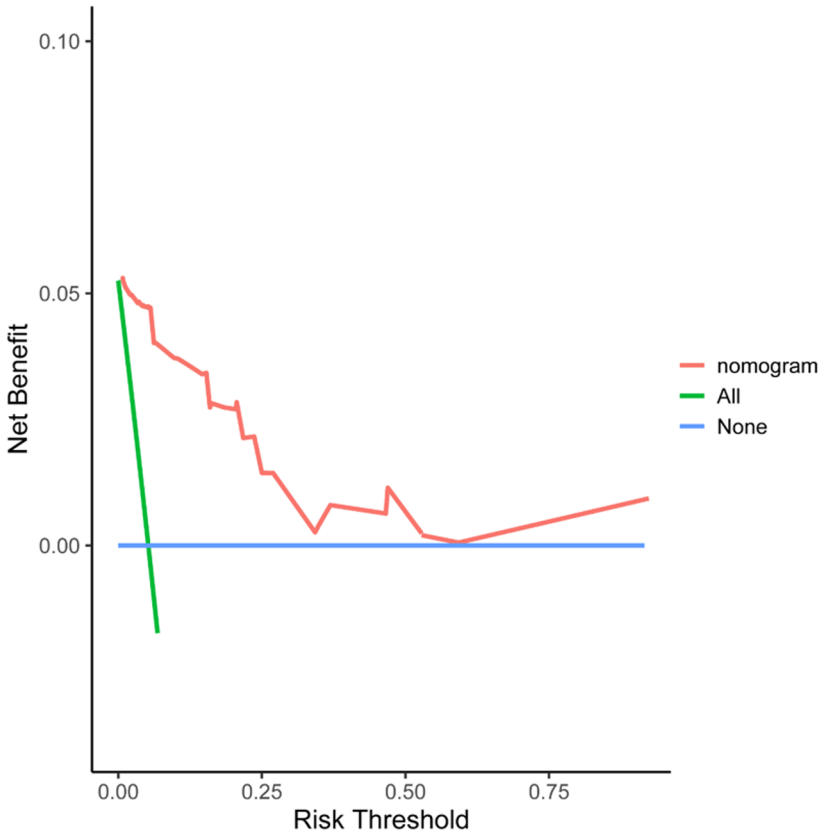
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Risk Threshold

Oral

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Establishment and validation of a predictive model for the development of hypoxemia after sleeve gastrectomy in patients with obesity

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Background:
Postoperative hypoxemia (PH) is the most common postoperative pulmonary complications (PPCs) after metabolic and bariatric surgery. However, there is a lack of clinically validated tools and tests to predict the risk of hypoxemia after bariatric surgery in patients with obesity.

Objective:
To analyze the independent risk factors for hypoxemia in patients with obesity within the first 24 hours after laparoscopic sleeve gastrectomy (LSG). We further develop and validate a nomogram predictive model to predict the probability of hypoxemia after LSG in patients with obesity.

Methods:
Clinical data of 195 patients with obesity who underwent sleeve gastrectomy in Shanghai Tenth People's Hospital were retrospectively analyzed. A univariate and multivariate logistic regression were used to analyze the independent risk factors for hypoxemia in patients with obesity within 24 hours after surgery. This nomogram discrimination, calibration, and clinical applicability were assessed using receiver operating characteristic curves (ROC), calibration curves, and decision curve analysis (DCA). The nomogram was internally validated using bootstrap resampling.

Results:
Multivariate logistic regression analysis showed that body mass index (BMI), platelet (PLT), superoxide dismutase (SOD), and triglyceride-glucose (TyG) index were independent risk factors for hypoxemia post-surgery in patients with obesity ($P < 0.05$). This nomogram was developed based on the independent risk factors identified by multivariate logistic regression. The predictive model had favourable discrimination with an AUC value of 0.732 (95% CI:0.658-0.806) and an AUC value of 0.754 (95% CI:0.684-0.825) after internal validation by resampling methods. The calibration curves showed good agreement between the predicted and actual probabilities of the nomogram. Decision curve analysis further confirmed that the predictive model has a large clinical application.

Conclusion:
We found that BMI, PLT, SOD and TyG index were independent risk factors for postoperative hypoxemia in obese patients. The prediction model constructed in this study had good discrimination, calibration, and clinical validity. Our model effectively identified patients at high risk of hypoxemia post bariatric surgery.

Oral

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Evaluating the effectiveness of citation count as a measure of methodological quality in scientific research

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Background:
There has been an increased need for an evaluation tool as an indicator of research quality. Current available quality assessment tools include the Level of Evidence, the MINORS score, the Cochrane Risk of Bias 2.0 Tool, the Newcastle Ottawa Scale, CASP Appraisal Checklists, and Legend Evidence Evaluation tools.

Objectives:
The primary objective was to assess the relationship between the citation number and the quality of the articles, as compared with the level of evidence and the MINORS score. The secondary objective of this study was to characterise the 50 most cited articles in the field of oesophagectomy research.

Methods:
The Web of Science allowed evaluation and comparison of articles on oesophagectomy research. The quality of the 50 most cited articles was assessed using the Oxford centre level of evidence classification and the methodological index for non-randomised studies (MINORS).

Results:
Level of evidence II studies were cited more than level IV (P=0.008). There was a significant positive correlation between citation number and MINORS score (P=0.002). The median MINORS score was highest amongst level II studies, followed by levels III, IV, and I. The median MINORS score for level II evidence was significantly higher than for level IV (P=0.001). The study sample size is associated with higher levels of evidence but does not correlate with the citation number. Female authors contributed to 4 out of 50 articles. Recently published articles tended to be cited more frequently. More authors equated to more citations. Prospective studies are more likely to be cited.

Conclusion:
Citation analysis can be used as an indicator of quality when assessing articles. It should, however, be used with caution as highly cited work, famous authors, and journals are all more likely to be cited. Citation analysis should be used alongside other well-established tools.

Oral

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Evaluating the impact of weight loss on non-alcoholic fatty liver disease (NAFLD) in a United Arab Emirates based population

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Background:
Severe obesity is prevalent in the Middle East, with a high risk of diseases such as Non-Alcoholic Fatty Liver Disease (NAFLD). Our study aims to investigate the effectiveness of bariatric surgery compared to supervised medical weight loss in improving NAFLD.

Methods:
This was a prospective study. Patients were divided into two cohorts - Surgical Cohort (SC) and Medical Cohort (MC). Anthropometric data, Comprehensive metabolic panel (CMP), complete blood count (CBC), lipid profile, High Sensitivity C- Reactive Protein (HSCRP) and transient hepatic elastography (TE) data were recorded at the baseline and after 12 months follow-up. For the SC, intraoperative liver biopsy was performed. NAFLD fibrosis score (NFS) was calculated as well using the laboratory data.

Results:
There were 86 patients in this study, with majority being females (n=56, 65.1%). 94.2% (n=81) were of Arab nationality. 51 patients belonged to the SC and 64.7% (n=33) of those patients underwent SG. There was a decrease in median body mass index (BMI) in the SC and MC, from 41.4 to 29.1 kg/m2 and 38.3 to 37.1 kg/m2 respectively. Median triglyceride, cholesterol, low-density lipid (LDL) and HSCRP levels decreased in the SC but increased in the MC. Both groups showed a decrease in median liver stiffness measurement (LSM) and controlled attenuation parameter (CAP) values. The number of patients with an F0 fibrosis grade and S0 steatosis grade increased in the SC from 15 to 23 patients and 2 to 11 patients respectively. In the MC, there was an increase in patients with F0 fibrosis grade from 25 to 26, and a slight increase from 2 to 3 patients with S0 steatosis grade. In SC, 9 patients initially had an intermediate NFS which decreased to 8 on follow-up. Additionally, 3 patients had a high probability score at baseline and 2 patients on follow-up. In the MC, the number of patients in the intermediate and high probability range remained stable from baseline to follow-up.

Conclusion:
Bariatric Surgery resulted in a greater reduction in BMI and better improvement in NAFLD fibrosis and steatosis scores compared to supervised medical weight loss.

Oral

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Evaluation of Revision Procedures for Roux-en-Y Gastric Bypass: A Comparative Analysis in Indian Patients

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Background:
Revision bariatric surgery addresses challenges such as suboptimal clinical response, recurrent weight gain, unresolved comorbidities, and primary surgery complications. This study aims to assess the outcomes of Roux-en-Y gastric bypass (RYGB) revision procedures and compare the efficacy of various techniques in addressing recurrent weight gain, comorbidity resolution, and associated complications.

Methods:
Revision cases conducted between May 2017 and April 2021 were analysed for weight loss, comorbidity resolution, and adverse events. The study included 23 revision procedures, with follow-up durations at 6, 12, and 36 months.

Results:
Of the 23 procedures, two patients were lost to follow-up. Complication and reoperation rates were 14.29% and 4.76%, respectively. Follow-up rates were 91.3%, 78.3%, and 39.1% at 6, 12, and 36 months, respectively. Mean postoperative body mass index (BMI) at 6, 12, and 36 months were 33.07, 33.11, and 34.5, respectively. Mean % excess weight loss (%EWL) at the same intervals were 39.47%, 43.70%, and 41.14%, respectively.

Patients were categorized into three groups: Group A (n = 6) underwent biliopancreatic limb (BPL) lengthening by 100 cm; Group B (n = 12) received a 7.5 cm diameter ring in addition to BPL lengthening; Group C (n = 3) underwent pouch trimming with BPL lengthening by 100 cm. %EWL at 6 months was 31.86%, 47.69%, and 53.49% in Groups A, B, and C, respectively, with consistent trends at 12 and 36 months.

Conclusion:
Revision bariatric surgeries represent complex interventions. Banded RYGB with BPL lengthening demonstrated promising outcomes, although statistical significance was limited by the study's retrospective design and small sample size. Further research with larger cohorts is warranted to validate these findings.

Oral

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Evaluation of weight loss outcomes in revision sadi-s following gastric sleeve for weight recurrence: a retrospective longitudinal study over 24 month

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Background:
Weight recurrence following primary bariatric surgery poses a significant challenge in managing obesity. Revision procedures such as Single Anastomosis Duodeno-Ileal Bypass (SADI-S) have emerged as viable option for patients experiencing suboptimal clinical response or recurrent weight gain given their significant hypoabsorptive potential. This study aims to assess the weight loss range and curve, reversal of metabolic disease along with efficacy and safety of revision SADI post sleeve gastrectomy.

Methods:
This retrospective longitudinal study examined patients who underwent revision SADI following gastric sleeve due to weight recurrence or suboptimal clinical response. Data analysis was conducted at two distinct time points. Initially, we assessed pre-SADI data, including baseline measurements such as initial weight before sleeve, excess weight loss (EWL), excess BMI loss (EBMIL), and total weight loss (TWL) at the time of revision surgery. Subsequently, postoperative data was analyzed to evaluate changes in BMI, EWL, and TWL at 1, 3, 6, 9, 12 and 24 months following SADI. Additionally, we evaluated the resolution of comorbidities and compliance to supplementation. Patients who initiated GLP-1 agonists postoperatively to optimize weight loss were excluded from our study cohort to ensure the integrity of the data analysis.

Results:
Our study included 75 patients who underwent revision SADI from sleeve gastrectomy with average of 69 months between the two interventions. The mean initial weight and BMI was 117.8 kg and 51.07 kg/m2 at the first bariatric procedure with baseline Excess Weight loss of 22.07% and Total Weight loss of 13.03% prior to revisional surgery. Post operative analysis revealed significant improvements in the mean Excess Weight Loss 36%, Total Weight Loss 18.32%, mean weight loss of 21.8 kg and an average change of BMI of 8.08kg/m2 at all follow-up time points compared to baseline. Furthermore, 22.6% of patients with diabetes and prediabetes achieved reversal of their metabolic disease and 8.7% corrected their hyperlipidemia.

Conclusion:
Revision SADI following gastric sleeve demonstrates promising outcomes in terms of weight loss and BMI reduction in patients experiencing recurrent weight gain. The significant improvements observed in EWS, EBMIL, and TWL underscore the efficacy of this revisional procedure.

Oral

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Exercise intensity-dependent metabolic benefits in muscle, adipose tissue, and liver of candidates to undergo bariatric surgery

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Background:
Exercise programs for candidates to undergo bariatric surgery are key for the preparation towards post-surgical fast-pacing weight loss. However, the optimal exercise prescription is unknown. Moderate-intensity continuous training (MICT) and high-intensity interval training (HIIT) are frequently prescribed, nevertheless, no clinical studies in this population have been conducted to compare the metabolic effects of these programs.

Objective:
To compare the metabolic effects of MICT vs. HIIT in candidates for bariatric surgery.

Methods:
25 candidates to undergo bariatric surgery (gastric sleeve) (22 women) were randomized into MICT (n=14) or HIIT (n=11) for 10 sessions during 4 weeks. MICT was walking/cycling at 50% of heart rate reserve (HRR) for 30 minutes, whereas HIIT consisted of 6 bouts (walking/cycling) at 80% of HRR (2.5 min each) and 6 periods of active rest at 20% of HRR (2.5 min each). Both training programs consisted of 10 sessions performed during 4 weeks. Anthropometric measures, glycaemia, insulinaemia, HOMA-IR (both fasting and 120 minutes after oral glucose tolerance test (OGTT)), and HbA1c, were measured before and after the intervention, and after the first postsurgical month. Also, after training, samples of skeletal muscle, subcutaneous adipose tissue, and liver were analyzed.

Results:
Both training programs increased aerobic capacity after training ($p<0.05$), but only after MICT these changes were kept at follow-up ($p<0.05$). However, only MICT decreased fat mass and increased total muscle mass and physical activity levels ($p<0.05$). Metabolically, MICT decreased insulinemia after OGTT ($p<0.05$) and increased PGC-1α protein levels in skeletal muscle (mean±SD: 1.1±0.27 vs. 0.7±0.4-fold-change, $p<0.05$). In the liver, MICT increased phospho-AMPK/AMPK (1.0±0.37 vs. 0.52±0.22-fold-change) and PGC-1α (1.0±0.18 vs. 0.69±0.15-fold change; both $p<0.05$), while HIIT participants showed lower collagen 1 (1.0±0.26 vs. 0.59±0.28-fold-change, $p <0.05$). In adipose tissue, HIIT induced increases in adiponectin (1.1±0.48 vs. 1.9±0.69-fold-change, $p<0.05$).

Conclusion:
MICT and HIIT generated differential systemic metabolic adaptations, along with differential benefits in skeletal muscle, liver, and white adipose tissue in candidates for bariatric surgery.

Oral

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Exploring methods of adjusting VO2max for body size to estimate aerobic capacity in people presenting for bariatric surgery

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Background:
Prior to undergoing bariatric surgery participants undergo exercise testing where their aerobic fitness (VO2max) is obtained and typically expressed relative to body weight. However, reporting aerobic fitness (VO2max) relative to body weight in bariatric populations may be underreporting fitness when being used as a tool to assess the health and integrity of the cardiovascular system.

Objectives:
To determine how expressing predicted VO2max relative to body mass (ml/kg/min), normative body mass (ml/kg/min) and fat free mass (FFM) (ml/kgFFM/min) influence the use of VO2max for assessing fitness and safety for surgery in people awaiting bariatric surgery.

Methods:
Historical data from individuals presenting for bariatric surgery were analysed. Predicted VO2max values were adjusted relative to the participants measured and "normative" body mass, where each prediction was assigned a classification score. Predicted VO2max adjusted to the participants measured FFM was also considered. Data were compared to lean individuals and individuals with obesity from a previous study.

Results:
Data from twenty participants awaiting bariatric surgery (43.2±11.8 y, 168.5±8.4cm, 115.3±16.8kg and 59.9±8.7kg FFM) were examined. Predicted VO2max relative: to total mass was 20.1±5.0 ml/kg/min; normative body mass was 30.0±6.6 ml/kg/min and; FFM was 38.6±9.1 ml/kgFFM/min. Median fitness classifications increased from very poor to poor when predicted VO2max was expressed relative to normative body mass. Predicted VO2max was lower in the bariatric group compared to comparator groups when expressed relative to total mass but was not different to the lean group when expressed relative to FFM.

Conclusions:
Reporting predicted VO2max results relative to body mass may be underestimating fitness and overestimating surgical risk in people with obesity.

Oral

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Exploring preoperative clinical profiles in patients with obesity and 24-Hour pH-impedance monitoring for anti-reflux surgery

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Background:
Preoperative profiling in patients with obesity, including clinical and 24-hour pH-impedance monitoring, is vital for patients undergoing anti-reflux surgery to address gastroesophageal reflux disease (GERD) and associated symptoms. This thorough evaluation optimizes treatment plans and aids in predicting surgical outcomes.

Objectives:
This study analyzed preoperative profiles of 40 surgical candidates with obesity for anti-reflux surgery. Objectives included assessing demographics (sex, age, BMI), symptomatology (heartburn, regurgitation, etc.), diagnostic methods, prior treatments (PPIs, etc.), treatment response, and 24-hour pH-impedance monitoring parameters (acid exposure, reflux events, impedance patterns).

Methods:
Descriptive analysis evaluated variables using frequencies, medians, and ranges. Data were collected from interviews, medical records, and diagnostic reports, with standard statistical methods applied.

Results:
The cohort included 47.22% males and 52.78% females, with a median age of 50 years and diverse BMI ranges. Common symptoms were heartburn (86.11%), regurgitation (91.7%), and chest pain (88.9%). Diagnostic methods included endoscopy, pH monitoring, and imaging studies, with a median time to diagnosis of 6.2 years. Prior treatments included PPIs (94.4%), with varying response rates.
In pH-impedance monitoring, pathological pH metrics were observed in 86.11% of patients. Symptom index indicated moderate symptom-reflux association. Proximal esophageal involvement was noted in 94.3% of cases, and DeMeester scores varied widely. Acid reflux was more pronounced in the upright position (94.3%). Pathological impedance patterns were seen in 69.4% of cases, with diverse reflux types identified.

Conclusion:
Preoperative profiling in patients with obesity, including clinical and pH-impedance monitoring, is crucial for patient selection and treatment planning in anti-reflux surgery. Understanding demographic and reflux-specific profiles aids in personalized management and enhances surgical outcomes. Standardized evaluations integrating these parameters are essential for successful anti-reflux surgeries, emphasizing the need for refined assessment protocols in GERD management.

Oral

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Factors associated with early surgical complications of sleeve gastrectomy: a ten-year review of national data from the United Kingdom

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Background:
Sleeve Gastrectomy (SG) has emerged as the most prevalent bariatric procedure globally. Staple line reinforcement (SLR) is used as a strategy to help reduce the incidence of complications; however, its benefit is unclear.

Objectives:
This investigation aims to elucidate the effect of SLR on post-operative bleeding (PB) and staple-line leak (SL) incidence after SG.

Methods:
Utilising the UK National Bariatric Surgery Registry (NBSR), we conducted a retrospective review encompassing 14,231 SG cases from January 2012 to December 2021. The main aim of the study was to discern the rate of, and factors associated with, early surgical complications after SG.

Results:
The study population was predominantly female (76.5%), with a median age of 46 (IQR: 36-53). Complications occurred in 2.3% (n=219) of cases, with PB documented at 1.3% (n=179) and SL at 1.0% (n=140). A notable decline in SLR use from 99.7% in 2012 to 57.3% in 2021 ($p<0.001$) was recorded. No marked difference was evident in complication rates between the reinforced (2.8%) and non-reinforced (3.3%, $p=0.161$) groups, nor in PB or SL incidents (reinforced 1.1% vs. non-reinforced 1.5%, $p=0.189$). Length of hospital stay was consistent across groups. Males showed a reduced tendency for postoperative complications (OR: 0.71, 95% CI: 0.54-0.92, $p=0.010$), whereas patients aged ≥60 or those with BMI ≥50 presented higher complication risks (OR: 1.87, 95% CI: 1.43-2.03, $p=0.006$; and OR: 1.57, 95% CI: 1.43-2.76, $p<0.001$, respectively). Higher ASA grades, particularly ASA 4, also indicated increased complication susceptibility (OR: 1.51, 95% CI: 1.45-5.11).

Conclusions:
The substantial decrease in SLR use over the past decade has not led to a rise in surgical complications, indicating that factors such as gender, BMI, and comorbidities may have a more pronounced impact on early surgical complications post-SG than SLR use.

Oral

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Factors predicting variability in total small bowel length

Muffazal Lakdawala, Pooja Unadkat

Background:
Understanding the interplay between the small bowel and mechanisms associated with obesity helps tailor surgical approaches to individual patient needs and optimize weight loss and metabolic outcomes. It is thus crucial to know the total small bowel length (TSBL) of all patients undergoing proximal bypass procedures. There is considerable variability in the TSBL reported in literature, and no easy noninvasive method exists to measure TSBL preoperatively. Intraoperative measures are difficult to perform and may lead to small bowel injury. The present study aims to find the average TSBL in patients undergoing bariatric surgery and correlate it with other select demographic, anthropometric and metabolic parameters.

Methods:
128 patients were included in this prospective cohort study, after obtaining institutional review board approval. TSBL was measured to find the correlation of TSBL and predict its variability based on selected covariates.

Results:
Age was seen to be negatively correlated with TSBL (r = -0.26, p-value = 0.00). Height and weight were seen to be positively correlated with TSBL [(r = 0.35, p-value = 0.00), (r = 0.17, p-value 0.05)]. Multivariate linear regression established that only the height (p-value = 0.03) and weight (p-value = 0.05) of the patient could statistically significantly predict the TSBL. However, sex and age did not significantly predict the TSBL after adjusting for other variables (p-value > 0.05).

Conclusion:
The present study concludes that the various demographic and anthropometric factors play a role in explaining the variability in the TSBL. Height and weight were seen to be positively correlated with TSBL, while age was seen to be negatively correlated. However, on multivariate linear regression, after adjusting for other variables, height and weight were the only factors seen to significantly predict the variability in the TSBL.

Table: Demographic and anthropometric factors predicting variability in TSBL Factors Coefficient (95% CI) p-value Sex Females Males -42.54 (-109.78, 24.71) 0.21 Age Below 50 years 50 years or more -37.41 (-79.28, 4.47) 0.08 Height Below 165 cm.

Oral

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Five-year BAROS score outcomes for roux-en-y gastric bypass, one anastomosis gastric bypass, and sleeve gastrectomy: A comparative study

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Purpose:
Metabolic and bariatric surgery (MBS) has been shown to enhance the quality of life (QoL) in individuals with obesity. The Bariatric Analysis and Reporting Outcome System (BAROS) is a highly reliable scoring system utilized toassess weight loss, obesity-associated medical conditions, and QoL following MBS. This study aimed to assess the efficacy of sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), and one anastomosis gastric bypass (OAGB) in improving health outcomes for individuals with severe obesity, employing the BAROS questionnaire.

Methods:
A retrospective study was conducted, enrolling 299 patients with a body mass index (BMI) of 40 or higher who had undergone primary MBS (RYGB, OAGB, or SG) and had a 5-year follow-up. Patients were evaluated using the BAROS scoring system, which included measures of % excess weight loss (%EWL), improvement and remission of obesity-related medical problems, and postoperative short-term and long-term complications.

Results:
The mean age and pre-op BMI of the patients was 39.4 ± 9.4 years and 44.6 ± 6.5 kg/m2, respectively. The total BAROS score was significantly higher in patients who underwent OAGB compared to those who underwent RYGB and SG (P, 0.02). However, no significant differences were observed in other aspects of the BAROS score, such as QoL.

Conclusion:
This study demonstrated that all three common metabolic and bariatric surgical procedures (SG, RYGB, and OAGB) significantly improved the QoL after surgery. Furthermore, patients who underwent OAGB had a significantly higher total BAROS score at the 5-year follow-up compared to those who underwent RYGB and SG.

Oral

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Five-year comparative analysis of laparoscopic sleeve gastrectomy with and without jejunal bypass in obesity

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Purpose:
This study evaluates the efficacy of laparoscopic sleeve gastrectomy (LSG) with or without jejunal bypass (JJB) for weight reduction, specifically assessing the value of combining LSG with JJB in obesity treatment.

Methods:
A retrospective analysis was conducted on 105 patients with obesity treated at Xiaolan People's Hospital of Zhongshan City from October 2014 to April 2019. These patients underwent either LSG or LSG+JJB and were accordingly classified into two groups. We compared and statistically analyzed differences in excess weight loss rate (%EWL) and total weight loss (TWL) between the groups.

Results:
The LSG group showed a peak in %EWL at 18 months post-surgery, followed by a decline (indicative of weight rebound) at 2 years, a recovery reaching a maximum at 3 years, and a gradual decrease from 3 to 5 years post-surgery. The LSG+JJB group experienced a gradual increase in %EWL within the first 2 years post-surgery, peaking at 2 years, and then a gradual decline from 2 to 5 years. However, the differences in %EWL between the two groups were not statistically significant. In terms of TWL, the LSG+JJB group consistently outperformed the LSG group at each follow-up point, with statistically significant differences observed.

Conclusion:
Both LSG and LSG+JJB groups demonstrated effective TWL, with LSG+JJB showing superior results compared to LSG alone. Additionally, the LSG+JJB group was more effective in mitigating postoperative recurrent weight gain than the LSG group.

Oral

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Gastric bypass stent treatment for postoperative obesity after laparoscopic sleeve gastrectomy：an open-label, pilot study

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Background:
The treatment of weight gain after laparoscopic sleeve gastrectomy (LSG) is currently a research hotspot. Secondary surgical treatment can cause significant trauma to patients, and drug therapy can sometimes be difficult to achieve satisfactory results. Endoscopic gastric bypass stent implantation has great application prospects in this field.

Objective:
Exploring the effect of gastric bypass stent in the treatment of postoperative weight gain in patients undergoing LSG.

Method:
Prospective analysis of patients who underwent endoscopic duodenal-jejunal bypass stent (DJBS)(Tangji Medical, Hangzhou, China) treatment for postoperative weight gain in our center over the past year. The follow-up time point is 4 months after stent implantation.

Results:
A total of 5 patients participated in this study.The average time for stent implantation surgery is 63 minutes. After 4 months of follow-up, the average weight loss of the patient was 4.61kg, the average total weight loss was 5.73%, the average body fat rate decreased by 2.88%, and the average muscle rate increased by 1.73%. Three cases experienced postoperative abdominal pain symptoms, which could be relieved within two weeks. No postoperative complications such as bleeding or perforation occurred in one case.

Conclusion:
DJBS has shown good therapeutic effects in the treatment of postoperative weight gain after LSG surgery, with no serious complications occurring. Weight loss is mainly due to fat, with little muscle loss.

Oral

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Gastric emptying following bariatric surgery; a comparative study of different procedures

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Background:
Gastric emptying appears to be associated with weight loss following bariatric surgery. Currently, there is no consensus on expected emptying parameters in this population.

Objective:
We aimed to describe standardized esophageal transit and gastric emptying protocols and defined expected values following uncomplicated bariatric surgery.

Methods:
In 77 asymptomatic post bariatric patients with optimal weight loss underwent a standardised liquid and semi-solid (oatmeal) oesophageal transit study and a 90 minute semi-solid gastric emptying study with dynamic 5-s images acquisition. Gastric emptying half-time and retention rate were calculated. Esophageal transit and reflux were graded by visual inspection of images. Additionally, a group of patients with obesity were used as controls (n=10)

Results:
There were 25 Sleeve Gastrectomy (SG), 19 one anastomosis gastric bypass (OAGB), 11 Rou-en-Y gastric bypass (RYGB), 12 Biliopancreatic diversion (BPD), 10 laparoscopic gastric banding (LAGB). There was a high incidence of delayed oesophageal transit of semi-solids in LAGB (70%) compared to other bariatric procedures (20% SG, 26% OAGB, 36% RYGB, 25% BPD and 10% controls), p=<0.0001. Deglutitive reflux of both semi-solids and liquids were common amongst SG (44%;60%), OAGB (32%;42%) and RYGB (36%; 63%) compared to BPD (16%;25%) and LAGB (0), p=<0.0001. The median semi-solid gastric emptying (GE) half time as follows; 19 (IQR17-21) minutes SG, 24 (19-29) minutes OAGB, 39 (IQR 25-156) RYGB, 44 (31-227) minutes BPD, 60 (46-100) minutes LAGB and 57.5 (34-107) minutes controls, p=<0.0001. A large proportion of meal transited into the small bowel on the initial image acquisition in SG 39.7 (IQR26.1-49.5)%, OAGB 61.5 (IQR 49.9-73.4)%, RYGB 73.2 (IQR60.6-84.1)% compared to BPD 23.9 (IQR11.3-56.7)%, LAGB 20.5 (IQR10.6-21.1) and controls 13.5 (IQR10.4-19.5) p=<0.0001. Gastric emptying half-time was associated with weight loss (%TWL: r^2=-0.3, p=0.048 and BMI: r^2=-0.3, p=0.021).

Conclusion:
The gastric emptying time following SG, OAGB and RYGB was significantly rapid. LAGB and BPD demonstrated normal GE time. Changes in GE time after bariatric surgery correlated with weight loss and might be used to select interventions, based on patients' physiology. We have defined expected values of standardised oesophageal and GE scintigraphy specifically tailored to bariatric patients.

Oral

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Gastric remnant fundoplication for reflux in OAGB

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Background:
Bile or acid reflux post One Anastomosis Gastric Bypass (OAGB) presents with management challenges. Gastric Remnant Fundoplication (GRF) is emerging as a potential solution and does not require revision of the gastric pouch or an anastomosis.

Objectives:
To determine the post-operative outcomes of patients following GRF in primary or revisional OAGB cohorts, including when GRF was performed as a subsequent procedure, with a focus on whether further anti-reflux surgery was required.

Methods:
A retrospective analysis of a single surgeon's database of patients who underwent primary (n=149) or revisional (n=27) OAGB was conducted, focusing on patients who underwent GRF concurrently or subsequently as a standalone procedure. Patients who were revised from Sleeve Gastrectomy (SG) to OAGB were excluded as GRF is not possible. The primary outcome measure was further anti-reflux surgery and secondary outcome measures included length of stay, returns to theatre and 30-day readmissions post GRF.

Results:
In primary OAGB performed without hiatal hernia repair (HHR) or GRF (n= 140), 5 patients (3.6%) required further surgery for reflux, all managed with GRF. One of these patients (20%) needed subsequent Roux en Y (RNY) conversion, equating to 0.7% of all primary OAGB patients.

3 primary OAGB patients (2%) had GRF at index surgery due to large hiatus hernias, and 6 patients (4%) had HHR alone. One HHR patient subsequently required GRF. None of these GRF patients required further anti-reflux surgery.

Out of the 27 revisional OAGB patients, 6 had GRF, of whom 2 were combined with Braun diversion. Another 2 were converted to RNY. None required further surgery.

There were no returns to theatre or 30-day readmissions. Average length of stay for GRF was 1.67 days.

Conclusion:
The use of GRF in primary and revisional OAGB patients had a low incidence of requiring further anti-reflux surgery and should be considered as an option in managing reflux in these patients.

Oral

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Gastric sleeve reduction, cruroplasty, gastropexy, and sleeve ileal bypass for patients with GERD, constipation and recurrent weight gain after LSG

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Background:
Laparoscopic sleeve gastrectomy (LSG), is now the most popularly performed bariatric surgery worldwide. However, there has been rising concern for gastroesophageal reflux disease (GERD) after LSG. Intrathoracic sleeve migration (ITSM) is one of the least acknowledged complications. Post-LSG GERD and constipation are commonly associated with ITSM. For treating severe GERD after LSG, most of the evidence is in favour of concomitant hiatal hernia (HH) repair and reconstruction of the phreno-esophageal ligament. Single anastomosis sleeve ileal (SASI) bypass is a newly introduced bariatric and metabolic procedure. More than 90% of patients with preoperative GERD were reported improvement in their symptoms after the SASI bypass.

Objectives:
Gastroesophageal reflux disease (GERD) after LSG is a common complication, which is usually accompanied with recurrent weight gain and constipation. We introduced our technique, gastric sleeve reduction, cruroplasty, gastropexy and concomitant SASI bypass, to treat post-LSG GERD, constipation and recurrent weight gain by once surgery.

Methods:
We performed herniated gastric sleeve reduction, cruroplasty, gastropexy, and concomitant SASI bypass for five patients with gastroesophageal reflux symptoms, recurrent weight gain and constipation after sleeve gastrectomy. Their reflux symptoms developed 1-2 years after initial sleeve gastrectomy. The proton pump inhibitor (PPI) treatment cannot be stopped in all the patients. Reflux esophagitis was present in all the five cases in preoperative endoscopy (LA grades B). The small hiatal hernias were found in one patient by CT scan and another by endoscopy. All the patients presented with severe constipation and different level of recurrent weight gain.

Results:
The reflux symptom was well resolved, and the PPI use was stopped in all the five patients postoperatively during 3-6 months follow up. The number of stools was from once every 3-5 days to 1-2 times per day. At the third month follow-up, the average BMI decreased from 28.0 kg/m2 to 25.2 kg/m2. The patients quality of life improved greatly from the surgery.

Conclusions:
Herniated gastric sleeve reduction, cruroplasty, gastropexy, and concomitant SASI bypass is an effective technique for patients with gastrointestinal reflux, constipation and recurrent weight gain after LSG.

Oral

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Gastroesophageal reflux disease, esophagitis, and Barrett's esophagus, long term- 5 years post sleeve gastrectomy

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The prevalence of gastroesophageal reflux disease (GERD) has increased over the last decades and nowadays it is the most common chronic disease. Gastroesophageal reflux disease (GERD) is defined by recurrent and troublesome heartburn and regurgitation or GERD-specific complications and affects approximately 20% of the adult population in high-income countries. GERS can influence a patient health-related quality of life with an increased risk of esophagitis, esophageal strictures, Barrett's esophagus, and esophageal adenocarcinoma. Tobacco, smoking, and genetic predisposition increase the risk of developing GERD. GERD symptoms could be medicated via. Proton pump inhibitor (PPI). If the diagnosis is unclear then endoscopy, esophageal manometry, and esophageal pH monitoring are recommended Lifestyle changes, medications, and surgery are the main treatments of GERD.

Gastroesophageal reflux disease (GERD) has traditionally been approached as a spectrum of diseases. Consequently, we propose categorizing GERD into three unique groups of patients: non-erosive reflux disease, erosive esophagitis, and Barrett's esophagus. Furthermore, dividing GERD into three unique groups of patients will allow us to concentrate on the different mechanisms that lead to the development of each of these GERD-related disorders and thus help us to focus on the specific therapeutic modalities that will benefit each group of patients.

This review focuses on the pathophysiology of gastroesophageal reflux disease (GERD) and its implications for treatment. Helicobacter pylori infection and Barrett's esophagus are reviewed. The conclusions drawn from this review are: (1) the pathophysiology of GERD is multifactorial; (2) because of the pathophysiology of the disease, surgical therapy for GERD is the most appropriate treatment, and (3) the genesis of esophageal adenocarcinoma is associated with GERD.

Oral

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GERD Questionnaire Post Sleeve gastrectomy With Gastropexy and Omentopexy Vs Without

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Background:
Laparoscopic sleeve gastrectomy (LSG) has become the most popular bariatric procedure worldwide. Post-operative gastroesophageal reflux disease (GERD) is among its commonest complications. Various surgical techniques were hypothesized to decrease GERD incidence, although yet no consensus on their value. Our aim is to assess the effectiveness of adding gastropexy and omentopexy to LSG in reducing GERD.

Methods:
This retrospective cohort study included patients who underwent LSG from February 2019 to February 2021. GERD-questionnaire (GerdQ) was administered by telephone to patients, with double blinding to previous gastropexy and omentopexy performance. Regression analysis was used to examine whether gastropexy and omentopexy affected the GerdQ score.

Results:
We received response from 405 patients. 195 of whom had gastropexy and omentopexy (Group A) and 210 without (Group B). Both groups were comparable in terms of age, gender, smoking and acid-lowering medications usage. The initial mean weight and BMI were higher in Group A compared to Group B, 132Kg vs 127kg, (P=0.033) and 50Kg/m2 vs 49 kg/m2 (P=0.034), respectively. There were no significant differences in neither the mean GerdQ score (7.42 2.72 vs 6.91±2.2, P=0.053), nor the number of patients who had a high GerdQ score >8 (70 (35.9%) vs 68 (32.4%), P=0.45), in Group A vs Group B, respectively.

Conclusion:
Adding gastropexy and omentopexy to LSG did not significantly reduce the incidence of GERD measured by GerdQ. This remains a single center retrospective non-randomized study, so we recommend the evaluation of adding gastropexy and omentopexy to LSG in a randomized controlled trial setting.

Oral

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Glucagon-like peptide-1 receptor agonists (Semaglutide) in conjunction with diet and exercise for treatment of suboptimal weight loss post bariatric surgery

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Indraprastha Apollo Hospital

Background:
About 20%–25% of patients experience recurrent weight gain following bariatric surgery (BS). The efficacy of semaglutide for treatment of type 2 diabetes mellitus and obesity is well established, but their role in the treatment of recurrent weight gain after bariatric surgery remains to be defined

Objective:
To evaluate the synergistic effect of semaglutide in conjunction with diet and exercise for the treatment of suboptimal clinical response post-bariatric surgery

Method:
This is a prospective study that was performed at Indraprastha Apollo hospital, New Delhi. Data was collected from January 2022 to June 2023.

Glucagon-Like Peptide-1 Receptor Agonists (Semaglutide) was administrated orally at a dosage of 3mg for the first 4 weeks and increased to 7mg after 2 weeks and finally administrated at a dosage of 14 mg for 28 weeks.

Of an initial population of 44 patients, 15 patients were excluded from the final analysis(n=29): Two patients discontinued treatment due to gastro intestinal issues. In four patients, treatment was discontinued 4 weeks after treatment initiation due to lack of effectiveness, and nine patients were lost to follow-up. Data on body weight and relevant clinical parameters were collected before and after 6 months of treatment.

Results:
Twenty-nine patients were included. Before semaglutide treatment weight and BMI were 90.5 kg (ranging from 83.4-107.9) and 34.0 kg/m^2 (ranging from 31.7-38.7), respectively, with a post-bariatric recurrent weight gain of 15.1% (ranging from 10.6-22.8) of total body weight and 4.6 kg/m^2 (ranging from 3.3-6.2). After 6 months of GLP1-RA treatment, a reduction in weight and BMI of 8.8% (5.2, 11.4) of total body weight and 2.9 kg/m^2 (1.8, 4.0) was observed (P value <0.0001), corresponding to 67.4% (40.4, 92.2) of the weight regain.

Conclusion:
For patients experiencing suboptimal clinical response after bariatric surgery, two-thirds of the recurrent weight gain can be safely managed with Semaglutide. In addition to diet and exercise Semaglutide appear to be viable options for weight loss in post bariatric surgery patients who experience suboptimal clinical response post-surgery.

Oral

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Glucagon-like peptide-1 receptor agonists for the treatment of recurrent weight gain after bariatric surgery: a systematic review and meta-analysis

Yuntao Nie, Yiran Zhang, Baoyin Liu, Hua Meng
China-Japan Friendship Hospital

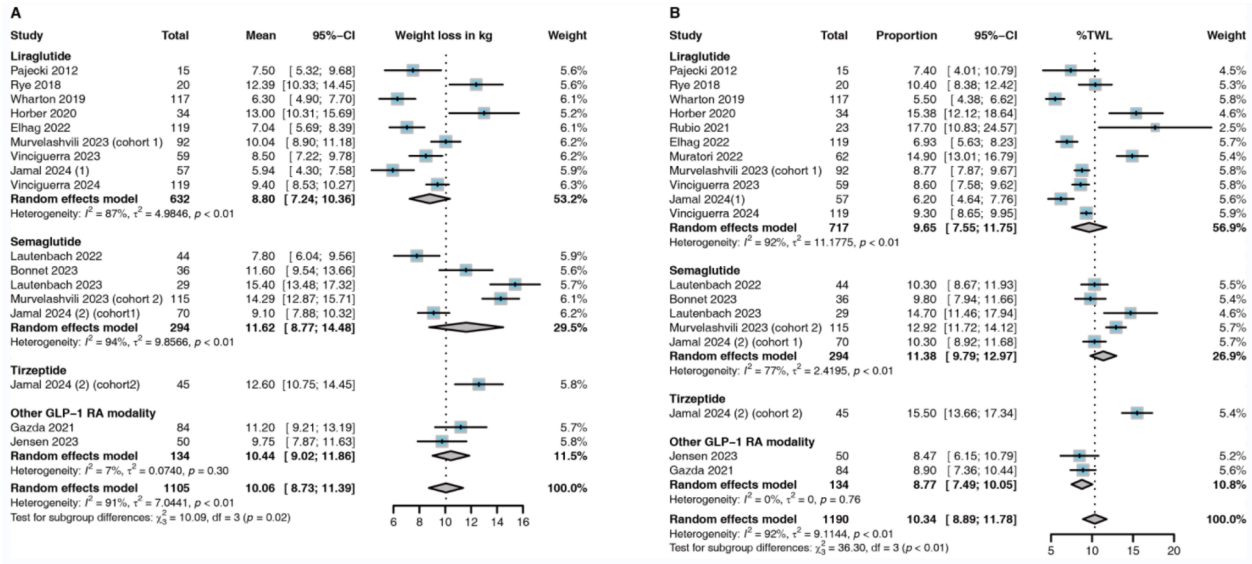
Background:
Bariatric surgery is the most effective treatment for obesity and related comorbidities, but recurrent weight gain may occur in a proportion of patients. There is a paucity of literature summarizing the efficacy of glucagon-like peptide-1 receptor agonists (GLP-1 RA) for the treatment of recurrent weight gain after bariatric surgery.

Objectives:
To evaluate the effect of GLP-1 RA on recurrent weight gain in patients who underwent bariatric surgery by conducting systematic review and meta-analysis (PROSPERO: CRD42024525608).

Methods:
Databases were searched for randomized controlled trials (RCTs), case–control, cohort and observational studies involving use of GLP-1 RA in the treatment of recurrent weight gain post-bariatric surgery. Primary outcome was weight loss after GLP-1 RA treatment. Secondary outcomes were changes in glycemic, lipid, inflammatory profiles and adverse events.

Results:
From initially screened 4081 articles, 16 studies including 1190 individuals who were diagnosed as recurrent weight gain after bariatric surgery were analyzed. The pooled weight loss after liraglutide, semaglutide, and tirzepatide was 8.80 kg (95% CI 7.24 to 10.36), 11.62 kg (95% CI 8.77 to 14.48), and 12.60 kg (10.75 to 14.45), and the pooled %TWL was 9.65% (95% CI 7.55 to 11.75), 11.38% (95% CI 9.79 to 12.97), and 15.50% (95% CI 13.66 to 17.34), respectively. After receiving GLP-1 RA treatment, patients had significant reductions in ALT (MD [mean difference] -5.09 IU/L [95% CI -9.27 to -0.91]), HBA1c (MD -0.27% [95% CI -0.46 to -0.09]), total cholesterol (MD -8.71 mg/dL [95% CI -16.80 to -0.61]), triglycerides (MD -28.30 mg/dL [95% CI -38.69 to -17.91]), HDL-C (MD -4.25 mg/dL [95% CI -8.31 to -0.20]), and LDL-C (MD -4.25 mg/dL [95% CI -8.31 to -0.20]). The pooled incidence of adverse events, including constipation, diarrhea, nausea, and vomiting was 0.10 (95% CI 0.04 to 0.22), 0.06 (95% CI 0.02 to 0.18), 0.23 (95% CI 0.12 to 0.37), and 0.06 (95% CI 0.03 to 0.13).

Conclusion:
Current evidence suggests that GLP-1 RA has favorable results in the treatment of recurrent weight gain after bariatric surgery, as manifested by weight loss and remission of metabolic parameters.


A
Study Total Mean 95%−CI Weight loss in kg Weight
Liraglutide
Pajecki 2012 15 7.50 [5.32; 9.68] 5.6%
Rye 2018 20 12.39 [10.33; 14.45] 5.6%
Wharton 2019 117 6.30 [4.90; 7.70] 6.1%
Horber 2020 34 13.00 [10.31; 15.69] 5.2%
Elhag 2022 119 7.04 [5.69; 8.39] 6.1%
Murvelashvili 2023 (cohort 1) 92 10.04 [8.90; 11.18] 6.2%
Vinciguerra 2023 59 8.50 [7.22; 9.78] 6.2%
Jamal 2024 (1) 57 5.94 [4.30; 7.58] 5.9%
Vinciguerra 2024 119 9.40 [8.53; 10.27] 6.3%
Random effects model 632 8.80 [7.24; 10.36] 53.2%
Heterogeneity: I^2 = 87%, τ^2 = 4.9846, p < 0.01
Semaglutide
Lautenbach 2022 44 7.80 [6.04; 9.56] 5.9%
Bonnet 2023 36 11.60 [9.54; 13.66] 5.6%
Lautenbach 2023 29 15.40 [13.48; 17.32] 5.7%
Murvelashvili 2023 (cohort 2) 115 14.29 [12.87; 15.71] 6.1%
Jamal 2024 (2) (cohort1) 70 9.10 [7.88; 10.32] 6.2%
Random effects model 294 11.62 [8.77; 14.48] 29.5%
Heterogeneity: I^2 = 94%, τ^2 = 9.8566, p < 0.01
Tirzeptide
Jamal 2024 (2) (cohort2) 45 12.60 [10.75; 14.45] 5.8%
Other GLP−1 RA modality
Gazda 2021 84 11.20 [9.21; 13.19] 5.7%
Jensen 2023 50 9.75 [7.87; 11.63] 5.8%
Random effects model 134 10.44 [9.02; 11.86] 11.5%
Heterogeneity: I^2 = 7%, τ^2 = 0.0740, p = 0.30
Random effects model 1105 10.06 [8.73; 11.39] 100.0%
Heterogeneity: I^2 = 91%, τ^2 = 7.0441, p < 0.01
Test for subgroup differences: χ^2_3 = 10.09, df = 3 (p = 0.02)
6 8 10 12 14 16
B
Study Total Proportion 95%−CI %TWL Weight
Liraglutide
Pajecki 2012 15 7.40 [4.01; 10.79] 4.5%
Rye 2018 20 10.40 [8.38; 12.42] 5.3%
Wharton 2019 117 5.50 [4.38; 6.62] 5.8%
Horber 2020 34 15.38 [12.12; 18.64] 4.6%
Rubio 2021 23 17.70 [10.83; 24.57] 2.5%
Elhag 2022 119 6.93 [5.63; 8.23] 5.7%
Muratori 2022 62 14.90 [13.01; 16.79] 5.4%
Murvelashvili 2023 (cohort 1) 92 8.77 [7.87; 9.67] 5.8%
Vinciguerra 2023 59 8.60 [7.58; 9.62] 5.8%
Jamal 2024(1) 57 6.20 [4.64; 7.76] 5.6%
Vinciguerra 2024 119 9.30 [8.65; 9.95] 5.9%
Random effects model 717 9.65 [7.55; 11.75] 56.9%
Heterogeneity: I^2 = 92%, τ^2 = 11.1775, p < 0.01
Semaglutide
Lautenbach 2022 44 10.30 [8.67; 11.93] 5.5%
Bonnet 2023 36 9.80 [7.94; 11.66] 5.4%
Lautenbach 2023 29 14.70 [11.46; 17.94] 4.6%
Murvelashvili 2023 (cohort 2) 115 12.92 [11.72; 14.12] 5.7%
Jamal 2024 (2) (cohort 1) 70 10.30 [8.92; 11.68] 5.7%
Random effects model 294 11.38 [9.79; 12.97] 26.9%
Heterogeneity: I^2 = 77%, τ^2 = 2.4195, p < 0.01
Tirzeptide
Jamal 2024 (2) (cohort 2) 45 15.50 [13.66; 17.34] 5.4%
Other GLP−1 RA modality
Jensen 2023 50 8.47 [6.15; 10.79] 5.2%
Gazda 2021 84 8.90 [7.36; 10.44] 5.6%
Random effects model 134 8.77 [7.49; 10.05] 10.8%
Heterogeneity: I^2 = 0%, τ^2 = 0, p = 0.76
Random effects model 1190 10.34 [8.89; 11.78] 100.0%
Heterogeneity: I^2 = 92%, τ^2 = 9.1144, p < 0.01
Test for subgroup differences: χ^2_3 = 36.30, df = 3 (p < 0.01)
5 10 15 20

Oral

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Group-matched study of OAGB vs SASJ – 3yr data in a single unit.

Ayushka Ugale
Kirloskar Hospital

Background:
To study the efficacy, feasibility, safety, nutritional stability and complications data of these 2 procedures

Methods:
41 patients were matched with similar ages, BMI, percentage with diabetes and HbA1c and their mean bowel lengths, and data was compared over 3yrs. Bypassed limbs of 100-200cm were used, depending on total bowel length; loop anastomosis done using a 45mm cartridge, leak test is done with methylene blue and Petersen's space is closed with non-absorbable sutures.

Results:
All 41 patient's procedures were completed safely without any intra-operative or immediate post-operative complications; all patients were discharged within 2-3 days.

The percentage total body weight loss (%TBWL) was surprisingly better with SASJ at 1 and 3 years, as compared with the OAGB group, though mean BMI values at 1 and 3 yrs showed no significant difference, as also the mean glycated hemoglobin (HbA1c). The diabetic remission was marginally better with SASJ at 1 and 3 yrs.

At 1 and 3 years, there was good control of fasting and post-prandial glucose (FBS, PPBS) and also with cholesterol and triglycerides, with no significant difference between the 2 groups.

Nutritional factors of proteins, albumin, calcium, vitamins D and B-12 were well maintained and similar in both groups; hemoglobin (Hb) and iron levels were similar, but reduced at 3yrs for both groups

6 patients had complications such as nausea, vomiting, diarrhoea, dumping syndrome, hypoproteinemia and hypoalbuminemia in the SASJ group, of which 2 patients required a partial reversal of the procedure [disconnection of the jejunal bypass while maintaining the sleeve]; the other 4 were managed conservatively. In OAGB group, 1 patient worsened to CKD and dialysis, one developed severe anemia and one expired with coronary disease at 3yrs. No mortality was caused by the procedure in this study.

Conclusions:
Both techniques of bypass can be performed safely and easily, with good results; SASJ has the added advantage of maintaining biliary access and the option of partial reversal, while maintaining the sleeve.

Oral

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Gut microbiota composition and arterial hypertension improvement post-Roux-en-Y Gastric Bypass: GATEWAY Trial sub-analysis after 5 years

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A Beneficência Portuguesa de São Paulo

Rationale:
Bariatric surgery (BS) is considered an effective treatment for severe obesity, and its systemic repercussions include benefits such as the normalization of blood pressure (BP), which may involve mechanisms beyond weight loss. Gut microbiota (GM) has been identified in clinical and experimental studies as a possible factor related to changes in BP. Therefore, our aim was to describe and evaluate the gut microbiota composition according to the type of response to RYGB after five years of follow-up.

Methods:
This is a sub-analysis of the GATEWAY randomized clinical trial (NCT01784848) that included individuals with obesity and hypertension using at least 2 medications, who were randomly allocated to receive RYGB and medical therapy (MT) or just MT. In this study the sample was stratified according to the normalization of blood pressure (BP) after five years of RYGB: Group 1) RYGB with remission of hypertension (n=12); Group 2) RYGB without remission (n=12); Group 3) MT (n=15). GM was assessed by shotgun metagenomic sequencing of fecal samples. The analyses were performed using LinDA (MicrobiomeStat R package version 1.1) and JASP team software version 0.18.3.

Results:
BMI remained divergent among groups 1 (27.6kg/m²) and 2 (28.7kg/m²) in contrast to group 3 (37.5kg/m²) even after a 5-years interval (p 0.05). Evaluation of GM ecological characteristics using Simpson and Shannon indexes revealed similar trends across the groups. However, microbial richness was notably higher in groups 1 and 2 (mean 14.5 and mean 13.75, respectively) compared to group 3 (mean 10.4) at both the family taxonomic level (p adjust= 0.00086) and the species level (p adjust= 0.00063).

Conclusion:
This comprehensive analysis unveiled no disparities in the taxonomic composition of the GM when comparing groups. Nevertheless, it did identify higher richness in the GM of participants undergoing RYGB compared to those who remained on drug treatment throughout the study's follow-up period.

Oral

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Hindsight 20/20: Patient satisfaction with their historical choice to undergo bariatric surgery in the era of new obesity management medications

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Background:
The choice to undergo metabolic and bariatric surgery (MBS) is highly personal; many forgo such treatment due to fear of surgery and its complications. To inform prospective patients exploring obesity treatment options, we assessed satisfaction with the choice to undergo MBS and how this choice might be influenced by current obesity management medications (OMM) availability.

Methods:
Adult patients with a history of MBS were identified (N=16,008) through an electronic health record query at a large academic institution. A survey was developed by a multidisciplinary team and deployed to the eligible population through REDCap. The work is ongoing; completion is expected in May 2024.

Results:
We report an interim analysis from 1042 respondents to date. Mean years since MBS was 11.8 (SD 7.4); most respondents had a sleeve gastrectomy (43.8%), followed by RYGB (31.7%), gastric banding (23.4%), and other (12.4%); mean reported out-of-pocket MBS cost was $3,459 USD. Mean participant peak lifetime weight was 136.8 (SD 33.3) kg, mean weight on day of MBS was 128.4 (SD 30.1) kg with corresponding mean BMI of 46.1 (SD 9.6) kg/m2, mean nadir post-operative weight was 81.4 (SD 21.8) kg, and mean current weight was 92.3 (SD 25.6) kg with corresponding mean BMI of 33.1 (SD 8.4) kg/m2. The majority of patients (56.7%) responded "Definitely yes" when asked if they would still choose to undergo MBS if they had to do it again; 17.5% responded "Probably yes", 8.1% "Neutral/unsure", 9.9% "Probably no", and 7.7% "Definitely no". When asked, "Would you still choose to have surgery if there were prescription weight loss medications that would lead to an average of 20% body weight loss (~60 pounds for an individual who weighs 300 pounds before starting treatment)? Such medications must be taken indefinitely to maintain this weight loss.", still most people would choose MBS: 31.2% "Very likely", 24.5% "Probably", 13.3% "On the fence", 14.6% "Probably not", and 16.4% "Unlikely".

Conclusion:
Even over a decade post-MBS, >75% of participants would still complete the procedure if given the choice again; more than half would still choose MBS even with availability of highly effective OMM.

Oral

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HugoRAS bariatric surgery: initial experience

Rajkumar Palaniappan

Background:
Robot assisted surgery is a rapidly advancing field of surgery today. The technology is increasingly being in the field of bariatric surgery and plays a significant role, especially in patients with severe obesity. Its use has shown significant benefits in revisional bariatric surgery as well. Though there have been two decades of robotic bariatric surgery through da Vinci robotic system, general surgery specialties involving multi quadrant procedures eluded this technology due to ergonomic challenges of uniplanar connected arm cart. With the launch of Robotic-Assisted Surgery system with technically new functionality by ways of open surgeon’s console and independent arm carts and flexible docking parameters, it is stipulated to enhance the adaptability in multi quadrant surgeries.

Aims and Objectives:
To evaluate the efficiency of the Robotic-Assisted Surgery system for Bariatric Surgery and to create ergonomics using our innovative BAROS principles.

Materials and Methods:
Single Centre study on 24 Robotic-Assisted Surgery Bariatric surgeries performed between Sep 2021 - Dec 2023. Endpoints measured were console time, intra-operative adverse events, post operative complication, and length of stay were analysed.

Results:
The platform was very efficient in performing OAGB robotically with no errors and uneventful postoperative recovery. The open console helps in better familiarisation of the operative environment and the docking principles including both reverse and forward docking helping in flexibility during multi-quadrant surgery. We were able to follow e ergonomic parameters precisely and aids in the Robotic-Assisted Surgery technology replicability of the procedure. The independent arm system is very helpful in giving best space for the assist port thus helping the bedside surgeon for best task performance.

Conclusion:
The Robotic-Assisted Surgery system is proven to be advantageous in bariatric surgery with faster learning curve and better ergonomics for bariatric surgery. However, a true robotic advantage is not feasible due to paucity in the available instrumentation. Further studies are recommended to postulate guidelines.

Oral

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Imaging changes of the male breast following bariatric surgery: a retrospective study

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China-Japan Friendship Hospital

Background:
Bariatric surgery demonstrates a positive long-term effect in the treatment of severe obesity and related comorbidities. Gynecomastia is a condition characterized by the enlargement of male breasts, and obesity is regarded as one of its causes.

Objectives:
To analyze breast imaging changes in male patients following bariatric surgery.

Methods:
Thirty-six male patients who had undergone bariatric surgery were enrolled in the study. The preoperative and postoperative clinical and laboratory data were extracted, and chest CT images were analyzed to record imaging parameters. The BODY-Q questionnaire was administered to evaluate postoperative patient-reported outcomes.

Results:
Bariatric surgery resulted in significant decreases in BMI and hemoglobin, as well as significant improvements in blood pressure, glycemic control, and dyslipidemia (all $P<0.05$). The breast axial diameter, breast density, and breast vertical percentage increased significantly while the breast vertical diameter and subcutaneous tissue thickness decreased significantly after bariatric surgery (all $P<0.05$). Multiple linear regression analysis identified the preoperative breast vertical percentage as a significant negative predictor for the change in breast vertical percentage after surgical intervention (β=-0.459, P=0.005 and β=-0.508, P=0.005, respectively, for each side). The BODY-Q scores between the gynecomastia and control groups showed no significant difference in the abdomen, body, chest, nipples, scars, skin, appearance distress, body image, psychological function, and sexual function scales (all $P>0.05$). The postoperative breast axial and vertical diameter in the gynecomastia group as well as subcutaneous tissue thickness, vertical percentage, and breast density in the control group were primarily associated with multiple BODY-Q scale scores.

Conclusions:
The breast imaging morphology of male patients changed significantly after bariatric surgery. The preoperative breast vertical percentage is a significant predictor of the change in breast vertical percentage following surgery. Breast dimensions in patients with gynecomastia and subcutaneous fat changes in patients without gynecomastia may impact the subjective satisfaction of individuals after bariatric surgery.

Oral

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Impact of a public health policy for bariatric surgery in a South American country

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Chilean Society of Bariatric and Metabolic Surgery

Background:
Nowadays, bariatric surgery (BS) is the most effective treatment for obesity worldwide. With obesity as a global epidemic, our group does not have information about any country with a public health policy (PHP) that finances these treatments in private health institutions. Recently in 2022, Chile established a public policy for patients with obesity under certain criteria, which has led to a significant increase in coverage and number of bariatric surgeries in our country.

Objectives:
To assess the number of bariatric procedures in Chile over the last 8 years. As a secondary objective, the aim is to determine how the PHP affects the number and type of procedures performed.

Methods:
A retrospective study was conducted on the database from the National Registry of IFSO Chile, including all bariatric procedures carried out between 2015 and 2022. To assess the difference in the number of bariatric surgeries following the PHP period, a non-parametric test (Fisher's exact test) was used, comparing the median number of surgeries from 2015 to 2021 against the total surgeries conducted in the year 2022.

Results:
During the study period, a total of 68,731 procedures were performed, 56.7% Gastric Sleeve, 30.7% Gastric Bypass, 9% Intragastric Balloon, and 3.6% other bariatric procedures. With the exception of 2017, there has been a constant increase in the annual number of surgeries, from 2.7% between 2015-2016, up to 50% between 2021-2022.

Besides, there is a statistically significant increase in the number of bariatric surgeries performed after PHP in 2022 ($p < 0.01$).

Conclusion:
Bariatric surgery in Chile has been increasing progressively in the assessed period, mainly sleeve gastrectomy and gastric bypass. The public health policy of including bariatric surgery as a benefit within the Chilean public health system has doubled the surgeries performed over the previous years. In the future, it will be necessary to assess the impact of this health policy on obesity-related conditions of the population.

Oral

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Impact of bariatric surgery on myosteatosis in patients with Severe Obesity

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Objective:
Bariatric surgery has short- and long-term effects on weight loss, but it causes not only fat loss but also lean mass loss, which can have a negative effect on muscle quality. This study aims to assess the influence of bariatric surgery on myosteatosis among patients afflicted by severe obesity.

Methods:
A prospective longitudinal observational study was conducted in 40 patients, classified as patients with severe obesity with a BMI 30 kg/m2 (group affected by obesity), and 41 patients undergoing gastrectomy for early gastric cancer (EGC) with a BMI < 25 kg/m2 (normal group). Using a deep-learning based automated CT segmentation method, we extracted cross-sectional areas of muscle, subcutanenous adipose tissue at the L3 vertebral level. Total abdominal muscle area (TAMA), normal attenuation muscle area (NAMA), low attenuation muscle area (LAMA), and NAMA/TAMA index were calculated. Longitudinal changes in body composition from preoperative to postoperative 1 year were analyzed.

Results:
The baseline mean HU and NAMA/TAMA index of the preoperative group affected by obesity were 36.7±9.2 and 67.3±12.8, respectively. In the normal group, they were 41.6±6.7 and 73.8±9.2, which were statistically significantly lower in the group affected by obesity (p=0.029). In postoperative 12 months, the mean HU and NAMA/TAMA index of the group affected by obesity were 41.2±9.3 and 73.2±8.7, respectively. 44.8±5.3 and 77.6±6.2 in the normal group, respectively. Both groups showed a significant increase after surgery, but the increase was greater in the group affected by severe obesity. (Group affected by obesity; p=0.013 and 0.016 Normal group; p=0.024 and 0.041). In group affected by obesity, baseline and 12-month BMI was 40.10±5.41, 29.10±4.73 (p=0.005), HbA1c was 6.82±1.85, 5.46±0.59 (p<0.001), and fasting glucose was 130.03±59.90, 98.27±14.70 (p=0.058), respectively. There was no relationship between the degree of HU change and the degree of change in BMI, HbA1c, and fasting blood glucose after the surgery.

Conclusion:
While a definitive correlation between BMI, HbA1c, fasting glucose levels, and myosteatosis in patients affected by severe obesity remains elusive, it is evident that myosteatosis improves one year after bariatric surgery

Oral

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Impact of bariatric surgery on urinary incontinence in individuals with obesity: 5-year outcomes.

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Background:
There is scanty evidence on the impact of bariatric surgery on urinary incontinence in the Asian population in the long term.

Methodology:
In this prospective cohort study patients who underwent bariatric surgery from 2018 to 2019 were screened using the International Consultation on Incontinence Questionnaire-Urinary Incontinence-Short Form (ICIQ-UI-SF) questionnaire. Patients having urinary incontinence (UI) were identified and followed up for 5 years using the ICIQ-UI-SF. These were classified as having stress, urge, or mixed types of urinary incontinence. The prevalence, change in scores, and the number of pads used were compared at baseline and follow-up.

Results:
A total of 148 patients underwent bariatric surgery of whom, 41 patients (M= 2, F=39) had UI. Pure stress incontinence was seen in 70.7%, 19.5% had pure urge incontinence and the rest had the mixed type. Using logistic regression, it was found that female gender was the most important predictor of having UI (OR: 8.33).

The prevalence of UI decreased from 27.7% at baseline to 3.4 % at 1 year, 2.7% at 3 years and 7.8 % at 5 years follow up. The mean ICIQ UI SF score improved significantly from 8.76 (SD=3.2) at baseline to 0.66 (SD = 2.1) at 1 year, 0.57 at 3 years, and 0.51 at 5 years. The proportion of patients with UI using any number of pads decreased significantly. There was also a significant decrease in the number of patients with moderate to very severe UI. The proportion of patients showing resolution was highest among the stress incontinence group. There was 1 death and 2 patients were lost to follow-up at 5 years.

Conclusion:
Bariatric surgery leads to profound improvement in urinary incontinence in individuals with obesity which is well sustained at 5 years. Recurrent weight gain may be associated with the recurrence of urinary incontinence. Resolution rates might be higher in the Asian population.

Oral

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Impenetrable abdomen: A case report of endoscopic sleeve gastroplasty performed in patient with obesity and huge paramedian laparocele

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Fondazione Policlinico Universario Agostino Gemelli IRCCS

Although bariatric surgical techniques have scientifically proven efficacy and interventional safety, they are not suitable as a therapeutic strategy of choice for all patients. Impenetrable abdomen is defined by the impossibility of surgical access to the abdominal cavity and could be determined by several conditions such as multiple abdominal surgeries with consequent scars or voluminous abdominal hernias due to the loss of muscle tone in patients with obesity.

Endoscopic Sleeve Gastroplasty (ESG) is proposed as a safe, effective technique. The mini-invasive approach represent a win win strategy to achieve weight loss in these subgroup of patients affected by obesity. We report the case of a 56-years-old Caucasian woman with impenetrable abdomen due to the presence of voluminous left paramedian laparocele that underwent ESG. An abdominal computed tomography (CAT) showed the presence of voluminous laparocele in the left paramedian site with engagement of the tenuous loops, mesentery and part of the transverse colon. Her body mass index (BMI) at presentation was 47.15 Kg/m2 (116 Kg per 1.57 m).

Comorbidities included sleep apnea syndrome (OSAS) in nocturnal Continuous Positive Airway Pressure (CPAP), hepatic steatosis, hypertension, hypertriglyceridemia and hypovitaminosis D. The case was first discussed to our multidisciplinary board team who, given the impossibility of accessing the abdominal cavity, agreed to perform the ESG. Complete blood tests examination, esophagogastroduodenoscopy (EGD), psychiatric and anesthesiology visits were performed with no contraindications to the endoscopic procedure.

The ESG took 58 minutes with no intra-procedural or post procedural adverse events. The patient resumed a liquid diet on the first postoperative day and was discharged from our hospital after 24 hours from the procedure. Regular outpatient follow-up visits at three and six months shown an overall loss of body weight of 30kg. Indeed the use of nocturnal CPAP for OSAS was interrupted and there was a reduction of the medication taken for the arterial hypertension.In our experience endoscopic sleeve gastroplasty is feasible and safe in patients with impenetrable abdomen in terms of body weight loss and reduction of obesity related comorbidity.

Oral

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Implementing of artificial intelligence algorithms to monitor and improve the adherence and compliance of bariatric surgery patients to dietary and li

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Tehran University of Medical Science

Background and objectives:
Utilizing artificial intelligence (AI) to promote adherence and compliance to dietary and lifestyle recommendations among bariatric surgery patients is vital for enhancing outcomes. AI analysis optimizes patient selection, surgical planning, and post-operative care, facilitating weight loss progress and improving patient outcomes. This study aims to explore the integration of AI algorithms to monitor and improve patient adherence in bariatric surgery.

Methods:
This study aimed to predict adherence to the prescribed diets using a hybrid model of artificial neural networks (ANNs) and the genetic algorithm (GA). In this study, 26 factors affecting diet adherence were modelled using ANN and GA (ANGA). In order to train, adjust and measure the performance of the models, all the data are assigned to one of three categories: train, tune (cross-validation) and test, which is 3:1:1 and random. Finally, all these characteristics enter a simple neural network consisting of Fully Connected Layers, which is trained to predict treatment results and prognosis of patients.

Results:
Factors like type of surgery, preoperative weight and body mass index, satisfaction, wake-up time, modification of eating habits before surgerylunch, and dinner time were strongly correlated with diet adherence ($p>0.01$).

Conclusions:
By leveraging AI and analyzing extensive datasets, this study highlights the potential of artificial intelligence in enhancing patient adherence and compliance in the context of bariatric surgery. Implementing AI technology can significantly improve long-term weight loss outcomes and post-operative care for bariatric surgery patients.

Oral

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Improved cardiac autonomic modulation assessed by heart rate variability may predict short term out comes of bariatric surgery

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Background:
Positive influence of bariatric-metabolic surgery on heart rate variability (HRV) and improvement of autonomic balance by increase in parasympathetic heart rate control has been noticed recently. Yet there is no clinical implication of these findings published in literature.

Objectives:
The aim was to evaluate the impact of bariatric-metabolic surgery on heart rate variability and identify any correlation between changes in autonomic behavior following the surgery and weight loss.

Methods:
A cohort of 100 patients submitted to Roux-en-Y gastric bypass surgery was prospectively studied. HRV measurements were performed before the surgery and within 7 days, 1, 3, 6, 9 and 12 months after the procedure using electrocardiograms over 5 minutes period. Linear indices (time and frequency domains) and the nonlinear indices of HRV were measured.

Results:
Eighty-nine patients completed up to 12-months of follow-up. There was reduction in mean heart rate (88 +/- 7 vs 62 +/- 10 beats per minute, P < .001). Spectral analysis showed a significant enhancement in HRV parameters in the time domain including RMSSD ((24 +/- 8 vs 52 +/- 20 milliseconds, P < .001), SDNN (105 +/- 25 vs 152 +/- 45 milliseconds, P < .001), pNN50 (5% +/- 5% vs 28% +/- 12%, P < .001). Also, frequency domain parameters including low frequency (LF) power (influenced by sympathetic and parasympathetic activity), and high frequency (HF) power (parasympathetic activity) increased post operation. The LF/HF ratio was lower (1.7 +/- 1.5 versus 0.9 +/- 0 .4, P < .05) twelve months after the surgery. A multivariable regression model revealed significantly positive associations between the post operative changes in both the RMSSD and pNN50 during first six months period and excess weight loss at 12 months post-surgery (P < .05).

Conclusion:
Bariatric surgery improved the parasympathetic activity of cardiac autonomic function and improvements in HRV indices. Early improvements in RMSSD and pNN50 were associated with increases in excess weight loss at 12 months post-surgery, but the mechanism of these changes require further study.

Oral

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Improved type 2 diabetes in ZDF rats through RYGB-mediated upregulation of hepatic TFF3 activating the PI3K-AKT pathway

Meng He

Objectives:
Metabolic surgery has emerged as a promising treatment for type 2 diabetes mellitus (T2DM), offering not only improved glucose metabolism but also significant benefits for patients with diabetes. The objective of this study is to investigate alterations in liver trefoil factor family 3 (TFF3) expression post metabolic surgery and explore the potential improvement of T2DM through the regulation of TFF3 expression following metabolic surgery.

Methods:
Utilizing Zucker rats, Roux-en-Y gastric bypass surgery (RYGB) was performed. Various techniques, including PCR, western blot, and immunofluorescence, were employed to compare glucose metabolism disparities, TFF3 expression levels, and PI3K-Akt pathway activity among the RYGB group, sham surgery group, and blank control group. Additionally, we assessed the pathways by which TFF3 influences hepatocyte metabolism using WB, immunofluorescence, and other experimental approaches.

Results:
The RYGB group exhibited substantial improvement in blood glucose levels, body weight, insulin resistance, and other metabolic parameters compared to the sham group. Moreover, post-RYGB surgery, there was an evident escalation in PI3K-Akt pathway activity alongside an elevation in TFF3 expression within the liver of the RYGB group. Furthermore, in vitro experiments revealed heightened PI3K-Akt pathway activity in TFF3-overexpressing cell lines, contrasting with decreased activity observed in TFF3-knockdown cell lines. These findings underscore a link between TFF3 expression and post-RYGB PI3K-Akt pathway activity, highlighting the contribution of hepatic TFF3 to PI3K-Akt signalling activation in the context of T2DM improvement post-RYGB.

Conclusion:
Our study findings strongly suggest that the upregulation of hepatic TFF3 subsequent to metabolic surgery is intimately connected with the amelioration of type 2 diabetes mellitus in the postoperative animal model. This research offers novel insights into unravelling the mechanisms underlying the improvement of T2DM through metabolic surgery.

Oral

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Indications and outcomes of laparoscopic versus robotic conversional bariatric surgery: an MBSAQIP study

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Background:
Currently, conversional bariatric surgeries (CBS) are performed using laparoscopic and robotic techniques. The determination of optimal techniques to minimize complications is subject to ongoing debate, and comprehensive data from large registries that compare the indications and safety of these surgical approaches remains scarce.

Objective:
This study compares the indications and outcomes of laparoscopic versus robotic CBS.

Methods:
The MBSAQIP database was retrospectively analyzed from 2020 to 2022. Patients who underwent laparoscopic CBS were identified and compared with those who underwent similar procedures robotically. The primary outcomes were 30-day serious complications and mortality.

Results:
A total of 72,189 CBS occurred, including 54,428 (75.4%) patients who underwent laparoscopic CBS and 17,189 (24.6%) who underwent robotic CBS. The mean age at conversion was 48.4 ± 10.6 years for the laparoscopic CBS and 48.1 ± 10.6 years for the robotic CBS. The mean body mass index was 41.0 ± 8.3 kg/m^2 for the laparoscopic CBS and 41.5 ± 8.5 kg/m^2 for the robotic CBS. For laparoscopic CBS, the most common indications were reflux (33.2%), recurrent weight gain (31.9%), and suboptimal clinical response (20.9%) compared with robotic CBS which were reflux (38.3%), recurrent weight gain (32.0%), and suboptimal clinical response (18.7%). Sleeve-to-bypass (35.8%) was the most common laparoscopic CBS followed by band-to-sleeve (16.7%) and band-to-bypass (9.9%) while the most common robotic CBS were bypass sleeve-to-bypass (44.2%), band-to-sleeve (14.8%), and band-to-bypass (11.5%). The mean operative times (165.4 vs 121.7 minutes, p<0.001) and the mean length of stay (1.7 and 1.6 days, p<0.001) tended to be longer in the robotic CBS. The rate of serious complications was higher for robotic CBS compared to laparoscopic CBS, although not statistically different (6.5 vs 6.1%, p=0.08). This consisted of a high rate of leak (0.9% robotic vs 0.7% laparoscopic, p=0.071), reoperation (2.8% robotic vs 2.6% laparoscopic, p=0.138), and readmission (6.7% robotic vs 5.4% laparoscopic, p<0.001). The mortality rates were similar between robotic and laparoscopic CBS (0.1% vs 0.1%, p=0.942).

Conclusions:
Our results suggest similar patterns for CBS in both surgical approaches. This study shows that procedures were safe with similar mortality, although readmissions rates were higher in the Robotic CBS.

Oral

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Indirect calorimetry validity and reliability in adults with overweight and obesity: a rapid systematic review

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Background:
Indirect calorimetry (IC) is widely regarded as the benchmark for measuring resting energy expenditure (REE); however, the validity and reliability of such measurements have not been systematically synthesised in adults with overweight or obesity.

Objectives:
To evaluate the diagnostic accuracy (concurrent validity, predictive ability, reliability) of IC for measuring REE in adults with overweight or obesity.

Methods:
A rapid systematic review was conducted. PubMed and Web of Science were searched up to December 2023. Eligible studies measured REE by IC via gas-exchange in adults with overweight or obesity (sample BMI 25kg/m2 or mean BMI >30kg/m2) and reported primary outcomes: concurrent validity (comparison against any REE measure), predictive ability (association with any prospective health outcome), or reliability (inter-rater or intra-rater). Independent screening was conducted via Covidence. Findings were narratively synthesised.

Results:
n=4022 records were assessed and n=21 studies were included that evaluated n=13 IC devices. n=10 studies reported on concurrent validity (comparators were standard IC/whole room IC), n=7 studies reported on predictive validity (weight loss/recurrent weight gain), and n=7 studies reported on intra-rater reliability. n=1 hand-held IC device was examined by n=6 studies; most showed poor concurrent validity (n=3 of 4) and inconsistent intra-rater reliability (n=1 of 2 reliable); predictive ability was not assessed. n=9 standard desktop-based IC devices were examined by n=18 studies; most demonstrated high concurrent validity (n=3 of 4), predictive ability for weight loss (n=5 of 7), and good to excellent intra-rater reliability (n=6 of 6). n=1 study evaluated an IC accelerometer that had very weak concurrent validity. n=1 study evaluated a body composition-based IC that had strong concurrent validity. n=1 study evaluated a whole-room IC that had excellent intra-rater reliability.

Conclusion:
Standard desktop-based IC demonstrated the most consistent concurrent validity, predictive ability, and intra-rater reliability for assessing REE in adults with overweight or obesity. Hand-held IC may have limited validity and reliability compared to standard or whole-room IC. Accelerometer, body composition-based, and whole-room IC devices require further evaluation. Inconsistent findings may be attributed to using different methodologies and reference standards. Further research is needed to examine the diagnostic accuracy of IC especially in adults with overweight and obesity.

Oral

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Individualizing care in bariatrics. When RYGBP is applicable, do different types of the operation yield different results? A long term clinical study.

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Background:
Roux-en-Y Gastric Bypass, including the different subtypes, has been established as one of the most effective methods of treating patients suffering with obesity and metabolic syndrome leading to positive clinical outcomes when the procedure is deemed a proper match to the patient.

Objectives:
We hypothesize that the difference in different limb lengths in RYGBP plays a significant role in achieving optimal clinical response. The objective of this prospective study is to show that when an RYGBP-subtype is deemed the right choice for the individual patient, the patient's BMI should be one of the main factors in selecting the right one.

Methods:
Consenting adults diagnosed with various grades of severe obesity with metabolic syndrome have been evaluated and treated. Patient comorbidities included hypertension, sleep apnea-hypoventilation, GERD and type 2 DM. All patients were and will continue to be included in the study, undergoing bariatric operation subtypes of RYGBP, based on different lengths of alimentary, biliopancreatic, or common limbs, such as S-RYGBP (BMI 35-40), RYGBP-LL (BMI 40-45), RYGBP-LBL (BMI 45-50) or D-RYGBP (BMI 50-55). So far, 251 patients have been evaluated (111 males - 140 females), with BMI 44 ± 6,82. Average patients' age is 43 ± 11,77. Study ongoing since 2019. All patients undergo 1-month, 3-m, 6-m, 1-year, 18-m, 2-y and then annual postoperative follow-ups.

Results:
Past clinical study results have shown recurrent weight gain when S-RYGBP or RYGBP-LL were used in patients with higher BMI ranges where other subtypes would be recommended according to our study. In our cohort, all patients have achieved or are on track to achieve a BMI of 20-27 in addition to a cured metabolic syndrome, on their 18th month as well as long-term subsequent 3- or 4-year postoperative follow ups, with no notable postoperative complications.

Conclusion:
Individualizing treatment is possibly the most important part of care when it comes to bariatric patients. Careful consideration of the patient's med/surg history and comorbidities should be taken when choosing the right operation. Where RYGBP is considered the optimal choice, the subtype choice is shown to largely affect results.

Oral

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Inflammation, adipocyte disfunction, and suboptimal outcome: the role of NLR in patients undergoing laparoscopic sleeve gastrectomy

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Objectives:
Our study aimed to investigate the potential impact of inflammation, as indicated by the Neutrophil-to-Lymphocyte Ratio, on adipocyte function and diminished weight loss in patients undergoing Laparoscopic Sleeve Gastrectomy (LSG).

Methods:
We prospectively enrolled patients undergoing LSG at our institution. The omental visceral (omVAT) and subcutaneous adipose tissue (SAT) were collected to evaluate the adipocyte function by immunohistochemistry and western blot. Gut hormone levels were analyzed in a subset of patients to examine associations with NLR.

Results:
A total of ten patients underwent adipocyte function analysis, with an additional 32 patients' serum analyzed for gut hormone levels. Elevated NLR (2.36) correlated with a significantly reduced adipose triglyceride lipase (ATGL) in omental visceral adipose tissue, indicating impaired lipolysis ($p = 0.025$). No significant differences in gut hormone levels (GIP, GLP-1, leptin) were observed between higher (2.36) and lower NLR groups, though a trend towards lower ghrelin levels in the higher NLR group (1975.06 ug vs. 2520.47 ug in the lower NLR group, $p=0.050$) was noted. Follow-up showed that patients with higher NLR consistently achieved less Excess Body Weight Loss (EBWL) at 12 months (66.11% vs. 76.54%, $p=0.037$) and 24 months (65.19% vs. 73.84%, $p=0.013$) post-operation, underscoring NLR's potential as a predictor for weight loss outcomes post-LSG.

Conclusion:
As a pilot study, Elevated NLR (2.36) pre-LSG correlates with diminished adipocyte function and may predict less favourable weight loss outcomes, highlighting the utility of NLR in preoperative evaluations to enhance surgical rates of optimal clinical response. Further in-depth studies are warranted to clarify the association between poor weight loss, inflammation, and adipocyte disfunction.

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Initial experience at an IFSO-LAC bariatric and metabolic surgery fellowship training center based in Reynosa, Mexico.

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Background:
The gradual increase in the rates of the population with obesity and the increase in the number of bariatric-metabolic surgeries performed annually in the world have required the formation of groups specialized in the surgical management of patients with obesity. In order to guarantee the training of surgeons specialized in the management of patients with obesity with high standards of academic quality, IFSO-LAC created fellowship training programs in bariatric and metabolic surgery in 2022.

Objectives:
Describe and validate the experience during the first year of training of fellows in a high-volume national center based in Reynosa, Mexico, comparing it with current international training programs.

Methods:
A retrospective review of a prospectively collected database of the fellowship training process was performed, describing the procedures in which the fellows participated during the training year. Statistics of participation in surgical interventions such as bypass, sleeve, revision surgeries and endoscopic procedures were included. The academic and research activities in which they participated were also characterized.

Results:
During the training, the fellows were present in master classes every 2 weeks taught virtually. They were present in more than 100 pre and postoperative patient evaluations in addition to the center's multidisciplinary meetings. They participated in a total of 788 procedures, of which 80.9% were gastric sleeves, 8.2% were bypass surgeries and revision procedures. 108 endoscopic procedures were performed between placement and removal of intragastric balloons in addition to diagnostic endoscopies. They carried out research work and participated in international conferences with original papers developed during the year of training. These statistics meet the objectives set by IFSO, ASMBS and other academic institutions that participate in bariatric and metabolic surgery fellowship training.

Conclusion:
Our training center guarantees adequate clinical and surgical exposure to fellows who come for training in bariatric/metabolic surgery. Statistics confirm that students fully achieve the goals set by the different training programs and international surgical societies.

Oral

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Innovative advances in bariatric surgery: assessing the efficacy of ChatGPT-4 in optimal surgical technique selection

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Background:
Artificial Intelligence (AI), specifically ChatGPT-4, are tools that in recent years have brought along a technological and cultural revolution, expediting complex processes and offering new possibilities in fields such as education, customer services, arts and, more recently, in medicine. If we focus on surgery, there are lots of speculations about its potential uses, given its advanced capabilities in the selection of surgical techniques, prediction of complications, identification of risky patients... So, ChatGPT-4 can offer surgeons an objective analysis based on data and adapted to the specific needs of each patient.

Objective:
Our objective is to evaluate the capacity of ChatGPT-4 to select surgical techniques in bariatric surgery in comparison to our bariatric surgical algorithm.

Material and Methods:
A unicentric, prospective and comparative study between the bariatric surgical technique proposed by ChatGPT-4 and the decision applied according to the surgical algorithm of the center.

Results:
A total of 161 patients (70.2% women) who underwent bariatric surgery from January 2022 to January 2024 were included, age 50.9±9SD. The average maximum Body Mass Index (BMI) was 46.05 kg/m2. The most frequent comorbidities were arterial obstructive sleep apnea syndrome (OSAS), arterial hypertension and diabetes mellitus. Applying the center's surgical algorithm, the most performed surgery was laparoscopic gastric bypass (BGYR) in 38,5%, followed by hypoabsortive techniques such as single anastomosis duodeno-ileal with sleeve gastrectomy (SADI-S; 26,9%). The average duration of the surgeries was 120 minutes and over 80% were discharged within 48 hours or less. However, according to the recommendations of ChatGPT-4 after exposing the different clinical cases, the most suggested surgeries were BG in 56,5% and Sleeve Gastrectomy (SV) in 37,9% of the cases. The possible correlation was analyzed using the V-Cramer test, which showed no correlation between real decision making and ChatGPT-4's suggestions (p=0,06).

Conclusions:
Currently, we consider that the AI tool ChatGPT-4 does not allow for an adequate selection of surgical techniques when compared with professional decision-making.

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Innovative single-port approach for simultaneous ventral hernia repair and bariatric surgery: A retrospective case series study

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Abstract
This retrospective case series study, conducted in Makkah, Saudi Arabia, explores the efficacy and outcomes of combining single-port bariatric surgery (BS) with ventral hernia repair (VHR) in a simultaneous setting. The study introduces a single-port laparoscopic approach, emphasising operative details, patient selection criteria, and the innovative nature of the technique. A total of six patients, meeting specific inclusion criteria, underwent this procedure at Alnoor Specialists Hospital between February 2021 and February 2023. The study evaluates demographic data, preoperative parameters, surgical approach, postoperative complications, and follow-ups to provide comprehensive insights.

Measurements and Selection Criteria:
The study includes patients aged 16 to 65, with a BMI ranging from 33 to 50, HbA1c levels less than 8 for patients affected by diabetes, those opting for sleeve gastrectomy, hernia defects with a transverse diameter of 6 cm or less, diastasis of recti, and an abdominal wall thickness preferably less than 5 cm.

Methodology:
Six patients (5 females, 1 male) underwent simultaneous VHR during BS using the single-port laparoscopic approach at Alnoor Specialists Hospital. Data, including demographic details, preoperative parameters, surgical techniques, postoperative complications, and follow-ups, were prospectively collected and retrospectively analysed.

Results:
Between February 2021 and February 2023, six patients (5 females, 1 male) underwent simultaneous VHR during BS using single port technique. The average age was 40.5 ± 9.44 years, with a mean BMI of 47 ± 8.25 kg/m2. The hospital stay for 50% of patients was two days. The mean total follow-up duration was 13 ± 3.29 months. The total weight loss observed was approximately 33.67 ± 6.66 kg, and mean excess weight loss was 29.60 ± 5.30%. No postoperative complications or recurrences were documented during follow-up, with uniformly positive outcomes according to the "Shaymaa" classification.

Oral

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International multicenter study of 2 step sadi as a rescue for sleeve gastrectomy

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Introduction:
Sleeve gastrectomy (SG) is effective and versatile, but weight recidivism or insufficient loss is up to 30%. SADI is a safe, reproducible, and effective solution.

Aim:
Evaluate the results of an international multicenter series of SADI as a rescue for SG.

Methods:
Retrospective survey for patients converted to SADI from SG Data from SG, and SADI were collected. Weight loss and safety were the main variables.

Results:
5 centers from Spain, Portugal and United States participated. 141 cases were collected, 65.6% women, mean age of 42.28 (18-63) at the time of SG. Initial BMI was 51.65kg/m2 (SD 9.13, range 36.57 to 89.35). Time interval was 39.11 months (SD 27.35, range 3 to 111). BMI at conversion was 39.93kg/m2 (SD 7.37, range 21.04 to 63.91). TWL after 60 months of SADI was 32.26% (SD 12.02) and BMI 34.33kg/m2 (SD 5.77). Time interval between procedures did not present an any influence weight loss on an overall view, and neither after stratifying it by quartiles. When we put all cases in a continuous timeline from SG to SADI, we observe up to 10 years follow-up and final BMI and TWL (32.92kg/m2 ± 6.42 and 33.56% ± 10.49, respectively) equivalent to primary SADI-S. Overall major morbidity was below 1.5% and there was no mortality.

Conclusions:
SADI as a rescue of SG is safe and effective procedure. Time interval does not seem to have any influence in final weight loss. Second step SADI seems to behave same way as primary procedures.

Oral

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Inter-surgeon variability in metabolic and bariatric surgery in the Netherlands: a multi-level analysis

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Background:
There are many factors influencing the chance of an optimal clinical response outcome after metabolic bariatric surgery(MBS). Focus has lied on patient-related risk factors, but differences in outcomes could also originate in quality of care-delivery by the surgeon or hospital.

Obejctive:
The aim was to explore where the largest part of the variation in various outcomes originates: the hospital-level, the surgeon-level, or the patient-level.

Methods:
All primary procedures registered in the Dutch quality registry for MBS between 2020 and 2022 were included in the analysis. The outcomes of interest included the occurrence of severe postoperative complications (i.e. Clavien-Dindo grade 3), reoperation within 30 days, prolonged length of stay (i.e. 3 days), readmission, and textbook outcome. Patient characteristics influencing the outcome in question were determined through stepwise logistic regression analysis. Multiple multilevel logistic regression models were built while adjusting for these patient covariates to determine the proportion of the explained variance that could be ascribed to the patient-level, surgeon-level, and hospital-level. Intraclass correlation coefficients (ICC) were determined to explore how much of the total variance is explained by the different levels.

Results:
In total, 23,887 patients operated by 92 surgeons from 18 hospitals were included in the analyses. The influence of the surgeon was largest for the chance on reoperation within 30 days, attributing to 37.7% of the explained variance, while fairly low for the other outcomes (0.0% - 19.0%). The ICC on the surgeon-level was low for all outcomes but highest for reoperation within 30 days (1.9%). The hospital level explained a larger part of the variance for all outcomes with, being the highest for prolonged length of stay (13.8%).

Conclusion:
Surgeon-related factors play some role in the chance of postoperative complications, however, a larger part of the variance can be ascribed to the hospital-level. This indicates that peri-operative care influences outcomes more than the surgeon's surgical skill. It must be kept in mind that Dutch MBS care is centralized with only dedicated bariatric surgeons performing MBS. Much of the total variance cannot be ascribed to a specific level, indicating that unmeasured factors play an important role in the occurrence of adverse events.

Oral

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Intra-operative hemosphere hemodynamic monitoring with acumen hypotensive (HPI) predictive software in a complex bariatric-metabolic surgical patient

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Background:
The combination of severe obesity with comorbid diseases such as hypertension, diabetes, cardiac disease and deconditioning predispose patients undergoing bariatric-metabolic surgery to periods of intraoperative hypotension (IOH) defined as mean arterial pressure < 65mmHg. In the absence of blood loss, intraoperative risks for IOH include patient factors, anaesthesia, patient positioning and surgical factors. Prevention, prompt recognition and management of hypotension throughout the surgical period is essential to minimise the incidence of post-operative morbidities - cardiac dysfunction, acute kidney injury and cerebral dysfunction.

Objectives:
To clinically apply the HemoSphere haemodynamic monitor with Acumen hypotension prediction software (HPI) (Edwards Lifescience) that utilises machine learning to predict hypotension in a high-risk patient undergoing single-anastomosis gastric bypass. To objectively measure indices of cardiac and renal function perioperatively and length of hospital stay.

Methods:
A 38 year old female patient, class V obesity with associated with diabetes, autonomic dysfunction, impaired cardiac function, adrenal insufficiency, obstructive sleep apnoea and significant physical deconditioning (wheelchair dependent) was consented for surgery and anaesthesia with the utilisation of HemoSphere monitoring. Preoperative preparation included optimisation of diabetes, myocardial function and other endocrine derangements. Anaesthesia was performed by an experienced bariatric and cardiac anaesthetist with the addition of invasive monitoring (arterial line, central venous line) and an intraoperative trans-oesophageal echocardiogram examination. The patient was transferred to intensive care for post-operative monitoring.

Results:
The HemoSphere haemodynamic monitor with HPI provided critical alerts in real time that predicted hypotensiven events based on the machine learning algorithms, allowing for timely interventions (vasopressors, fluid boluses) to prevent these episodes. During 192 minutes of anaesthesia there were 42 predictive alerts and 6 discrete episodes of IOH recorded. Post-operative recovery revealed minimal and non-significant changes in cardiac and renal function.

Conclusions:
In the setting of high risk patients with class V obesity and poor functional status, intraoperative hypotension is a common situation that requires prompt management to prevent significant post-operative complications. The HemoSphere haemodynamic monitor with hypotension prediction software shows utility in this group of patients undergoing complex surgery.

Oral

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Investigating the efficacy of GLP-1 receptor agonist in combination with sleeve gastrectomy using rats with obesity and diabetes

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Background:
With the arrival of supposedly more effective and safer anti-obesity drugs, questions have arisen regarding where does drug therapy is placed within the realm of obesity treatment.

Objectives:
To investigate the efficacy of Glucagon-like Peptide-1 receptor agonist (GLP-1) in combination with sleeve gastrectomy (SG), versus standalone GLP-1 or SG treatment in rats with obesity and type 2 diabetes mellitus (T2DM).

Methods:
The model of rats with obesity and diabetes were accomplished through eight weeks of high-fat diet and intraperitoneal injection of low-dose streptozotocin (STZ). Thirty-two successfully modelled rats were randomly divided into GLP-1 group, SG group, SG-GLP-1 group and sham operated group (SHAM group), randomized into 6 rats in each group. Changes in body weight, fasting blood glucose (FBG), oral glucose tolerance test (OGTT) and insulin tolerance test (ITT) were measured before and 1-10 weeks after the intervention.

Results:
The mortality rate of the operation in total was 15.6%. There was no statistically significant difference between the pre-intervention parameters ($P > 0.05$). Four weeks after intervention, the body weight and ITT AUC in the SG-GLP-1 group were significantly lower than those in the SHAM group and the GLP-1 group ($P < 0.05$). Eight weeks after intervention, the body weight, FBG and ITT AUC in the SG-GLP-1 group were significantly lower than those of SHAM group, GLP-1 group and SG group ($P < 0.05$), but there was no significant difference in OGTT AUC between SG-GLP-1 group and SG group at each time point ($P > 0.05$). The SG-GLP-1 group had significantly superior and more sustainable weight loss outcomes, and with higher percentage of total weight loss (%TWL) than that in the SHAM group, SG group and GLP-1 group ($P < 0.05$).

Conclusions:
The addition of pharmacotherapy (GLP-1 receptor agonist) to SG improves the weight loss and anti-diabetic outcomes of standalone SG. More studies are needed to investigate whether combination therapy of SG and GLP-1 receptor agonist can be as effective as other stronger surgical therapy, such as gastric bypass and duodenal switch.

Oral

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Investigating the prevalence of regional sarcopenia with nutrition ultrasound in patients undergoing bariatric surgery: A new method.

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Background and objectives:
Sarcopenia, the degenerative loss of skeletal muscle, has gained recognition as a crucial marker in the evaluation of postoperative outcomes following bariatric procedures. This study aims to assess the prevalence of regional sarcopenia using ultrasound imaging in patients undergoing bariatric surgery, shedding light on a novel dimension of muscular health in this cohort.

Methods:
A prospective cohort study was conducted, encompassing patients who underwent bariatric surgery between January 2023 and June 2024. Ultrasound assessments targeting specific muscle groups were employed to evaluate regional sarcopenia, encompassing the quadriceps, biceps, and calf muscles. Additionally, relevant demographic and clinical data were collected to facilitate a comprehensive analysis.

Results:
The prevalence of regional sarcopenia, as identified through ultrasound imaging, revealed a notable occurrence in the upper limb and lower limb muscle groups. Significant variations were observed in the extent of sarcopenia among patients undergoing bariatric surgery, suggesting a complex interplay between surgical intervention and muscular health.

Conclusions:
The findings underscore a novel vista of investigation, outlining the significance of regional sarcopenia in the context of bariatric surgery. The correlation between regional muscle degeneration and the metabolic outcomes post-surgery provides valuable insights for refining patient care strategies and tailoring therapeutic interventions.

Oral

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Ireland's first metabolic surgery department: results after 5 years follow-up

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Background:
Obesity and its associated co-morbidities represent one of the biggest challenges for Irish healthcare system. Despite that, until 2017 there was no organized metabolic surgery care in the country.

The first metabolic surgery department established in the Republic of Ireland was at Letterkenny University Hospital in 2017. Since then, the department has pioneered metabolic surgery as a viable treatment for type 2 diabetes (DM2), non-alcohol fatty liver disease (NAFLD), polycystic ovarian syndrome (PCOS) and benign intracranial hypertension (BICH) where medical and conservative management has failed.

Objectives:
The goal of our department was to provide a complete care for the patients suffering from obesity related comorbidities. We have created a complex metabolic surgery care department, providing pre- and postop assessments, multidisciplinary team (MDT) and full spectrum surgical management.

Methods:
The authors present the 1-year and 5-year follow-up results of 40 patients operated on for uncontrolled type 2 diabetes mellitus during the first year (2017-2018) of the metabolic surgery unit at Letterkenny University Hospital. Included in this analysis are patient demographics, comorbidities, surgical techniques, and most importantly evolution of pre-op and post-op HbA1C and anti-hyperglycemic medication burden.

Results:
The authors report an overall reduction in body mass index, burden of medication, and notably 82% of the patients became free of diabetes one year after their operations and 75% of patients achieved complete remission of their type 2 diabetes five years after the surgeries.

Conclusion:
In summary, the Roux-en-Y Gastric Bypass is an effective treatment option for obesity related medical comorbidities. Based on our results and in accordance with the recently published Health Information and Quality Authority (HIQA) statement, metabolic surgery should be introduced with no delay in all of the Irish hospitals too.

Oral

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Iron deficiency and prevalence of anemia: 3 years study after one anastomosis gastric bypass (OAGB) for severe obesity

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Background:
OAGB is an ideal procedure for weight loss, but due to the alteration of gastrointestinal tract Iron deficiency with or without anemia is a well-known long-term complication of this procedure. Serum Ferritin is the best marker of iron status, and iron deficiency occurs when ferritin levels are below 15 µg/L. As serum Ferritin is an inflammatory marker as well. Transferrin saturation can define iron deficiency in a better way. Blood investigations are recommended frequent interval to monitor iron deficiency.

Objective:
The aim of this study was to explore the frequency of iron deficiency and iron deficiency anemia in long term after OAGB

Methods:
330 patients who underwent OAGB for severe obesity at Indraprastha Apollo hospitals in India in the period 2014-2018 were enrolled in the study with a follow up of 3 years

Results:
We analysed the blood tests and the use of iron supplementation and intravenous iron treatment by regression analysis. Ferritin , transferrin saturation and hemoglobin levels were analysed for 3 years after OAGB on 330 patients. Ferritin was 33 (16-63) µg/L, and mean (SD) hemoglobin was 13.4 (1.3) g/dl. Transferrin saturation was 10%. Iron deficiency (ferritin ≤ 15 µg/L) was seen in 23.6% patients; in addition, iron insufficiency (ferritin 16-50 µg/L) occurred in 44% patients. Mean (SD) hemoglobin levels were 12.5 (1.4) g/dl in patients with iron deficiency, 13.5 (1.2) g/dl in patients with iron insufficiency, 13.8 (1.3) g/dl in the 21% patients with ferritin 51-100 µg/L, and 13.8 (1.2) g/dl in the 10% patients with ferritin >100 µg/L. 56% patients reported taking oral iron supplements, and 27.5% had received intravenous iron treatment after the OAGB procedure

Conclusion:
Iron deficiency or iron insufficiency occurred in two-thirds of the patients 3 years after OAGB, although more than half of them reported taking oral iron supplements.

Oral

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Is the 200 cm biliopancreatic limb the answer to sustained weight loss with an RYGB?

Muffazal Lakdawala, Pooja Unadkat

Background:
Roux en Y gastric bypass (RYGB) is arguably one of the most time-tested procedures for the treatment of class III or severe obesity and its associated comorbidities. However, standard RYGB has been shown to be associated with weight regain with recurrence of comorbidities in the long term. Some studies have shown better weight loss and remission of comorbidities by increasing the biliopancreatic limb length (BPL). Only a few studies have prospectively documented and studied results associated with a 200 cm BPL.

Objectives:
To study prospectively if a BPL of 200 cm results in good and sustained long-term weight loss and remission of associated comorbidities at 6 months, 1 year, 2 years, and 5 years.

Primary outcomes: Percent total body weight loss (TWL%) at 6 months, 1 year, 2 years, and 5 years

Remission of type 2 diabetes mellitus, hypertension, dyslipidemia, hyperuricemia, and obstructive sleep apnea

Secondary outcomes: Postoperative complication rates (diarrhea/steatorrhea, dumping syndrome, marginal ulcer, internal hernia)

Methods:
446 patients were included in this prospective cohort study, after obtaining institutional review board approval. Patients with > class 3 obesity and above, operated on at a single center between January 2021 and September 2023, who underwent a laparoscopic RYGB (200 cm BPL, 75 cm AL) have been included. Here we report interim results up to 2 years post-surgery. Demographic data and metabolic profiles of these patients were collected preoperatively and at 6 months, 1 year, and 2 years postoperatively.

Results:
Table 1:

Covariates	**Mean**			
	Pre-op	6 months	1 year	2 years
Weight	124.83	93.91	82.00	78.35
BMI	45.89	34.61	30.49	28.78
Total Cholesterol	173.61	158.72	150.56	142.62
Serum Triglycerides	141.34	119.50	96.37	88.41

LDL Cholesterol	109.62	92.65	85.80	77.21
Fasting blood sugar	118.35	88.85	86.29	90.01
HbA1c	6.66	5.42	5.22	5.36
Serum Uric Acid	5.80	5.21	4.70	4.45
Table 2:				
Comorbidities	**Percentage**			
	Pre-op	6 months	1 year	2 years
Diabetes	28.4	16.46	15.30	12.05
Hypertension	42.86	34.27	30.71	20.48
Dyslipidemia	21.67	16.10	13.38	4.82
Hyperuricemia	11.19	8.07	7.12	3.57
OSA	31.19	12.50	10.04	1.19
Table 3:				
Complications	**Percentage**			
	Pre-op	6 months	1 year	2 years
Diarrhea/ Steatorrhea	NA	12.97	12.41	14.77
Dumping Syndrome	NA	9.46	13.11	31.52
Marginal ulcer	NA	2.58	9.27	8.89

Conclusion:

RYGB with a longer BPL of 200 cm is a relatively safe and effective surgery for patients with > class 3 obesity, achieving good average TWL% with sustained remission of comorbidities at 2 years with few complications. Dumping syndrome and marginal ulcers remain a concern with the RYGB in the long term and diarrhea/ steatorrhea is an additional concern in patients with longer BPL. It is thus our recommendation to measure total small bowel length in all patients whilst doing a longer BPL.

Oral

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Is the body mass index a sufficient and appropriate index to decide on the selection of patients for bariatric surgery?

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Tehran University of Medical Science

Background and objectives:
Bariatric surgeries are extensively used today as a final weight loss treatment after other methods such as diet, exercise, and medication. Regardless of the type of surgery (sleeve, classic bypass, OAGB, etc.), all bariatric surgeries effectively induce sustainable weight loss and improve underlying conditions like type 2 diabetes. According to the latest guidelines, bariatric surgery is recommended for individuals with a body mass index (BMI) over 35 regardless of the presence or severity of underlying conditions. Currently, the sole decision criterion for bariatric surgeries is BMI, which cannot accurately estimate obesity, body fat percentage, predict weight loss, improvement in underlying conditions, and post-surgery recurrent weight gain. The aim of this study is to investigate and compare new anthropometric indices (Body Shape Index (BSI), Body Roundness Index (BRI), Visceral Adiposity Index (VAI)) with the BMI in terms of postoperative weight loss, improvement in associated conditions, and recurrent weight gain up to one year after surgery.

Methods:
Patients referred to the obesity surgery clinic at Sina Hospital who were candidates for bariatric surgery were enrolled upon consent. Height, weight, waist circumference, and hip circumference of the volunteers were measured to calculate the indices. Preoperative tests to assess lipid profiles were also conducted. The findings were examined and analyzed using SPSS version 21 software.

Results:
Analysis of data from 150 patients undergoing OAGB surgery indicated that the BRI is a better predictor for postoperative weight loss and recurrent weight gain compared to other indices. However, the VAI is a better indicator for improvement in associated conditions like diabetes.

Conclusions:
The results of this study suggest that the BMI alone is not a suitable criterion for decision-making in selecting patients for metabolic and weight loss surgeries as it cannot estimate obesity and body fat percentage accurately. Further studies with larger sample sizes are needed to utilize new anthropometric indices for patient selection and improved surgical outcomes.

Oral

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Is the pyloric sphincter important during LSg? A single-center study.

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Purpose:
To study the influence of the distance from the pyloric sphincter during surgery on the results of LSG.

Material and methods:
The study included 945 (915 women) patients with a body mass index of 34.5-69.6 kg/m2 aged 18-65. Patients were randomized into 2 groups depending on the type of laparoscopic surgery: 1 (n=463), a 36-40 Fr calibration probe was used, and the distance from the pyloric sphincter was 4-6 cm; 2 (n=482) a 32 Fr calibration probe was used, the distance from the pyloric sphincter was 2-3 cm. The main comparison criterion is the percentage of weight loss in the first 6 and 12 months, and an additional comparison criterion is the postoperative course of concomitant diseases and the presence of complications.

Results:
A comparative analysis showed that the first group lost 59±3% of its initial weight in the first 6 months, and 71±4% after 12 months; in the second group, respectively, 73±3% and 87±3% of the initial weight. The difference between the groups in the 6th and 12th month indicators was statistically significant ($p < 0.05$). Concomitant diseases in group 1 decreased by 70-80% by the 6th month after surgery and by 85-96% by the 12th month. In the 2nd group, a similar remission and improvement in the 6th month was 84-94%; in the 12th month, the indicators remained at the same level.

Conclusion:
The results of this randomized trial show that when using a calibration probe of 32 Fr and a distance of 2-3 cm from the pyloric sphincter during laparoscopic longitudinal gastrectomy, compared with using a calibration probe of 36-40 Fr or more at a distance of 4-6 cm from the pyloric sphincter, there is an increase in faster and more effective weight loss, earlier remission of concomitant diseases, and complications do not increase.

Keywords: sleeve gastrectomy, Azerbaijan, pyloric sphincter, bariatric.

Oral

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Jejuno-jejunostomy (JJ)-related early complications after roux-en-y gastric bypass (RYGB): occurrence, prevention and treatment.

Sergio Gaspar Figueiredo, Oliver Burckhardt, Anna Dayer-Jankechova, Michel Suter

Introduction:
RYGB is a very effective bariatric operation that has been performed during over 60 years for severe obesity. Despite good results, its prevalence has decreased recently, and it has been replaced in part by other procedures such as sleeve gastrectomy or one-anastomosis gastric bypass. One of the reasons for this change is the avoidance of the JJ and its related complications.

Objective:
This study focuses on JJ-related complications after RYGB and aims to determine factors and define treatment modalities.

Methods:
Retrospective study of a prospective collected database including all patients submitted to RYGB since 1999 and present, and analysis of all early JJ-related complications.

Results:
102 (3,1%) out of 3232 patients developed a complication at the JJ. There were 3 (0,1 %) leaks, 65 (2,0%) hemorrhages, including 14 with obstruction due to intraluminal blood clots, 23 (0,7%) obstructions not related to hemorrhage and 14 partial occlusions. Reoperation was necessary in 42 (1,3%) of the patients: to stop bleeding in 3, to relieve obstruction in 36 (including all those with intraluminal blood clots), and to close a leak in 3. A temporary gastrostomy to decompress the gastric remnant was required in 22 cases. No patient died. A recent modification of the surgical technique (hand-sewn versus stapled JJ, last 310 cases), despite avoiding obstruction due to hemorrhage, has so far not reduced the overall complication rate. Early experience of operating surgeons and recent modifications of the surgical technique were associated with more obstructive complications.

Conclusions:
The JJ is responsible for a small, albeit significant, percentage of complications after RYGB, leading to reoperation in 40 % of affected patients. In the case of obstruction, prompt reintervention is warranted to avoid overdistension of the gastric remnant and blow-out. It is hoped that careful attention to hemostasis and meticulous surgical technique to avoid kinks during construction of the JJ will contribute to lowering the incidence of these technical issues in the future.

Oral

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Laparoscopic delivery of a novel enterotomy capture device between self-forming magnetic anastomosis in Roux-en-Y gastric bypass (RYGB) patients

Mohit Bhandari, Mahak Bhandari, Manoel Galvao Neto, Manoj Kumar Reddy, Winni Mathur

Background:
Magnetic anastomosis has demonstrated the ability to reduce anastomosis complications such as leaks and bleeding. We report the procedure feasibility and 30-day results of a new novel surgical technique that eliminates the need to close the enterotomies via conventional methods (Hand-sew/Stapled) after creating the anastomosis and facilitates an immediate lumen opening between two new coupled self-forming magnets (SFM) in RYGB patients.

Methods:
Prospective non-randomized single-center trial. Surgery included creating a side-to-side jejunal-jejunal anastomosis using an SFM octagonal anastomosis delivered intraluminally through a novel temporary enterotomy control and capture (ECC) device. All devices were deployed and delivered laparoscopically.

Results:
A total of 09 patients were recruited, with a mean age of 48.2 (40-63) years and an initial BMI of 40.5±6.09 kg/$m^{2.}$ The mean HbA1c was 12.3±0.9. All procedures were performed laparoscopically. There was no conversion or peri-operative mortality. All ECCs and SFMs were delivered and connected with no delivery malfunctions and completed in an anastomosis creation time of 14 minutes (enterotomy to magnet coupling). All ECC and SFM passed with no retentions or patient self-reported pain. No procedure adverse events (AE) occurred during the 30-day follow-up period.

Conclusion:
Preliminary and procedure feasibility data of these new surgical techniques suggest the procedures are feasible and safe in RYGB surgery. We demonstrated the potential to improve surgical outcomes and reduce surgical steps and associated operation time while standardising the techniques for creating a reproducible anastomosis. Further and longer studies are warranted and have potential utility in other anastomosis in bariatric surgery.

Oral

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Laparoscopic delivery of a novel enterotomy control and capture device between self-forming magnetic anastomosis in SADI-S

Mohit Bhandari, Manoel Galvao Neto, Mahak Bhandari, Manoj Kumar Reddy, Winni Mathur

Background:
The Single Anastomosis Duodenal Ileostomy bypass with Sleeve Gastrectomy (SADI-S) has gained global recognition as an alternative and effective MBS for primary, revisional, or staged procedures. SADI-S in patients with obesity poses inherent challenges due to limited space and the complexity of accessing anatomical structures. These limitations may prevent the surgeon from performing a full hand-sewn or stapled anastomosis. We report the procedure feasibility and 30-day results of a new novel surgical technique that facilitates an immediate lumen opening between two new coupled self-forming magnets (SFM) in SADI-S patients.

Methods:
Prospective non-randomized single-centre trial. Surgery included creating an end-to-side duodenal-ileal anastomosis at approximately 300 cm from the IC valve, using an SFM octagonal anastomosis delivered intraluminal through a novel temporary enterotomy control and capture (ECC) device. All devices were deployed and delivered laparoscopically.

Results:
A total of 07 patients were recruited, with a mean age of 40 (19-59) years and an initial BMI of 42.5±4.2 kg/$m^{2.}$ The mean HbA1c was 14.9±1.5. All procedures were performed laparoscopically. There was no conversion or peri-operative mortality. All ECCs and SFMs were delivered and connected with no delivery malfunctions and completed in an anastomosis creation time of 18 minutes (enterotomy to magnet coupling). All ECC and SFM passed with no retentions or patient self-reported pain. No procedure adverse events(AE) occurred during the 30-day follow-up period.

Conclusion: Preliminary reports suggest the devices are feasible and safe in SADI-S surgery by reducing anastomosis creation time. Further and longer studies are warranted and have potential utility in other anastomosis in bariatric surgery.

Oral

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Laparoscopic one anastomosis gastric bypass in a woman with type 1 diabetes unaware of pregnancy

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MBSA

Background:
Bariatric surgery presents unique challenges in women of reproductive age, particularly when pregnancy status is not recognized preoperatively. We present a case report of a 32-year-old woman with Type 1 Diabetes Mellitus (T1DM) who underwent laparoscopic one anastomosis gastric bypass (OAGB) while unknowingly Six weeks pregnant.

Case Description:
The patient, with a history of T1DM and severe obesity (BMI 45), underwent OAGB. Two weeks post-op, she discovered her pregnancy. Potential risks associated with early pregnancy after bariatric surgery were discussed in great details with the patient and she opted to continue with her pregnancy.

Management and Outcome:
Multidisciplinary management focused on optimizing maternal and foetal health throughout the pregnancy. Nutritional support and monitoring for Type 1 diabetes were implemented. Despite concerns regarding surgical impact and nutritional deficiencies, the patient underwent caesarean section at 36 weeks' gestation and delivered a healthy baby.

Discussion:
This case underscores the importance of preoperative pregnancy testing in women of reproductive age considering bariatric surgery. It emphasizes the need for heightened awareness and management strategies for unintended pregnancies post-bariatric surgery to ensure optimal outcomes for both mother and child.

Conclusion:
Comprehensive preoperative evaluations, including pregnancy testing, are imperative for women considering bariatric surgery. This case report highlights the necessity for vigilant monitoring and management of pregnancy post-bariatric surgery, emphasizing the importance of early detection and intervention to optimize maternal and fetal well-being.

Oral

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Laparoscopic revision after one anastomosis gastric bypass (OAGB): A 3-years experience in a single high-volume bariatric surgery center in northern Italy

Paolo Gentileschi, Domenico Benavoli, Francesca Serio, Luigi Conte, Michela Orsi, Michela Campanelli, Daniela Rossiello, Emanuela Bianciardi

Background:
One Anastomosis Gastric Bypass (OAGB) for severe obesity is increasingly performed despite there is no robust data regarding its advantages over other malabsorptive procedures and the incidence of long term complications. Revision after OAGB is required in patients who experience recurrent weight gain, biliary reflux, stenosis, marginal ulcer or excessive hypoabsorption with clinical implications. We present the results of a prospective study evaluating revisions after OAGB over a 3-years period in a single Institution.

Methods:
Fifty-three consecutive patients undergoing OAGB revision according to institutional protocols from January 2020 to July 2023 were collected. They were 34 women and 19 men. Mean BMI at revision was 39 kg/m2 (range, 18 to 46 kg/m2) for the whole group and 44 kg/m2 for the recurrent weight gain group. Mean time from primary OAGB to revision was 48 months. Indication for revision was weight re-gain in 34 (64%), severe bile reflux in 6 (11%), marginal ulcer in 5 (9.5%), excessive hypoabsorption in 4 (7.5%) and stenosis in 4 (7.5%) patients.

Results:
All procedures were performed with a laparoscopic approach. Revisional procedures were:

Biliary limb lengthening in 32 patients (60%), pouch re-sizing in 2 (3.7%), conversion to RYGB in 11 (21%), biliary limb shortening in 4 (7.5%) and remake of gastro-jejunal anastomosis in 4 (7.5%) patients. Postoperatively, two patients had minor bleeding (3.7%) and one patient had melena (1.8%). These three cases were treated conservatively. Mean Post-revision hospital stay was 3.4 days (range, 2 to 11 days). Among late complications (>90 days), bile reflux was found in 1 patient (1.8%), incisional hernia in 2 patients (3.7%) and severe protein hypoabsorption in 1 patient (1.8%).

After revisional surgery, with a mean follow-up of 20 months (range, 10 to 48 months), 52 out of 53 patients experienced significant amelioration of the clinical conditions and only one required additional surgery for severe hypoabsorption. Mean follow-up BMI was 32 kg/m2 for the whole group and 33 kg/m2 for the recurrent weight gain group. Among the subgroup of patients who were selected for recurrent weight gain the mean drop of BMI was significant.

Conclusions:
All surgical approaches for revision after OAGB are safe and effective in resolving the clinical indication for revision. Further studies are necessary to confirm these findings.

Oral

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Laparoscopic Roux-en-Y gastric bypass (LRYGBP) for the treatment of GERD after laparoscopic sleeve gastrectomy (LSG) in French Polynesia

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Background:
In French Polynesia 50% of the population has a BMI>30 thus inducing a major challenge in local healthcare. Postoperative reflux is a well known long term adverse effect after LSG that can have a major impact on quality of life and health. In our institution 2372 LSG have been performed by one surgeon from 2010 to 2023. Mean age was 41and mean BMI was 47, female/male ratio was 3/1.

Objectives:
We performed LRYGBP to reduce GERD symptoms and complications in patients that underwent LSG and were resistant to medical treatment.

Methods:
From January 2019 and December 2023 78 patients were selected during follow-up evaluating symptoms and endoscopic findings. An upper GI endoscopy was performed systematically. When medical control of GERD was unsuccessful or there were severe endoscopic findings the patient was selected for surgical treatment with LRYGBP. Unfortunately esophageal pH monitoring is unavailable in French Polynesia and it's impossible to transfer all patients to homeland France to perform this exam. All patients were given medical treatment for one year postoperatively. Mean follow up was 2,5 years.

Results:
Preoperative endoscopic findings were: 10 patients had a mid-gastric twist, 6 had esophageal intestinal metaplasia without dysplasia, 23 had esophagitis, 35 had gastritis all without Helicobacter Pylori, 21 had normal endoscopies. Of all patients 98% experienced relief in symptoms while 39% stopped medical treatment and 66% reduced it after one year. All pathologic endoscopic findings were improved or stable at postoperative control.

Conclusion:
LRYGBP is a valid procedure to reduce and possibly cure GERD symptoms and its complications after LSG. Particular attention must be given to the follow up in a remote island setting.

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Late gastropleural fistula after the management of laparoscopic sleeve gastrectomy leakage

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Background:
One of the rare but serious complications of laparoscopic sleeve gastrectomy (LSG) with significant morbidity and mortality is gastropleural fistula (GPF).

Objective:
Here, we present a 34-year-old woman who underwent LSG. Due to leakage in the proximal site of the stapler line and splenic artery erosion into the site of leakage after 1 month, splenectomy and drainage catheter insertion was done. Three months later, she presented with dyspnea, fever, and lung abscess, GPF was diagnosed, and Roux-en-Y fistulo jejunostomy was done. After 10 days, her clinical condition improved, but the patient expired due to hemorrhagic cerebrovas?cular accident (CVA).

Conclusion:
Therefore, GPF along with other common complications should be seriously considered in patients developing post-LSG chronic respiratory symptoms

Oral

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Linking early weight loss to long-term optimal clinical response after laparoscopic sleeve gastrectomy: the impact of ≥37.7% EBWL at 3 months

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Background:
Pinpointing patients likely to experience suboptimal weight loss post-bariatric surgery is vital for maximizing surgical benefits.

Objectives:
To evaluate the impact of achieving 37.7% Excess Body Weight Loss (EBWL) within 3 months post-Laparoscopic Sleeve Gastrectomy (LSG) on clinical outcomes, and its correlation with gut hormones and adipocyte function.

Methods:
Our study tracked 194 patients undergoing LSG from April 2020 to January 2023, with 130 qualifying for analysis post-exclusion criteria. Pre-operative assessments included comprehensive blood profiles, HbA1c, and HOMA-IR scores. Follow-ups were conducted at specified intervals post-surgery to monitor weight loss and health markers. The cohort was stratified based on achieving EBWL 37.7% at 3 months, with further analysis on Neutrophil-to-Lymphocyte Ratio (NLR), insulin resistance, and comorbidities. We collected serum, omental visceral (omVAT), and subcutaneous adipose tissue (SAT) samples to analyze differences in gut hormone levels and adipocyte function, aiming to uncover potential mechanisms behind suboptimal weight loss.

Results:
Patients not reaching >37.7% EBWL at 3 months post-LSG demonstrated significantly higher initial BMIs (Median 49.23 vs. 38.22, $p<0.001$). This group also showed less likelihood of achieving 50% EBWL at 6 months (42.86% vs. 94.56%, $p<0.001$) and at 12 months (80.95% vs. 100%, $p<0.001$). High BMI significantly predicted lesser early weight loss success (OR=0.820, 95% CI 0.760-0.885, $p<0.001$). At 24 months, a significant disparity in achieving 50% EBWL persisted (64.29% vs. 92.50%, $p=0.021$), but this difference was not observed at 36 months (63.64% vs. 86.67%, $p=0.348$). No significant differences were detected in gut hormone levels or adipocyte function between the two groups.

Conclusion:
Early achievement of 37.7% EBWL post-LSG is a strong predictor of subsequent optimal weight loss, with initial BMI significantly influencing outcomes. However, variations in gut hormone levels and adipocyte function did not significantly differ, suggesting other factors may drive weight loss post-surgery. These findings underscore the importance of early post-operative weight loss as an indicator for long-term optimal clinical response and call for further investigation into the mechanisms influencing suboptimal outcomes.

Oral

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Lipid metabolic reprogramming mediated by circulating Nrg4 alleviates MASLD during the early recovery phase after sleeve gastrectomy

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Background:
The metabolic benefits of bariatric surgery that contribute to the alleviation of metabolic dysfunction-associated steatotic liver disease (MASLD) have been reported. However, the processes and mechanisms underlying the contribution of lipid metabolic reprogramming after bariatric surgery to attenuating MASLD remain elusive.

Objectives:
To explore the possible mechanism of early MASLD improvement after SG surgery.

Methods:
A case–control study was designed to evaluate the impact of three of the most common adipokines (Nrg4, leptin, and adiponectin) on hepatic steatosis in the early recovery phase following sleeve gastrectomy (SG). A series of rodent and cell line experiments were subsequently used to determine the role and mechanism of secreted adipokines following SG in the alleviation of MASLD.

Results:
In patients with severe obesity, an increase in circulating Nrg4 levels is associated with alleviation of hepatic steatosis in the early recovery phase following SG before remarkable weight loss. The temporal parameters of the mice confirmed that an increase in circulating Nrg4 levels was initially stimulated by SG and contributed to the beneficial effect of SG on hepatic lipid deposition. Moreover, this occurred early following bariatric surgery. Mechanistically, gain- and loss-of-function studies in mice or cell lines revealed that circulating Nrg4 activates ErbB4, which could positively regulate fatty acid oxidation in hepatocytes to reduce intracellular lipid deposition.

Conclusion:
This study demonstrated that the rapid effect of SG on hepatic lipid metabolic reprogramming mediated by circulating Nrg4 alleviates MASLD.

Oral

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Longitudinal analysis of weight loss changes post-bariatric surgery: Outcomes at an Australian public bariatric centre

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Background:
Obesity management remains a significant worldwide health challenge, with bariatric-metabolic surgery (BMS) being a key strategy for durable weight control. A variety of different operations can be performed with differing outcomes. There is a paucity of published data of medium-term weight loss outcomes of these various operations performed at a major publicly-funded centre in Australia.

Objectives:
To analyse medium-term changes in percent excess body weight loss (%EBWL) following BMS performed in a single public bariatric centre in Australia.

Methods:
A retrospective review was performed of medical records of 993 patients who underwent BMS (including gastric band (GB), sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB) and single anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S)) at Box Hill Public Hospital in Melbourne, Australia. Data collected included %EBWL at various time-points from 1 month to 6 years post-surgery. Weight-loss outcomes were compared between the 4 different surgical types using the Kruskal-Wallis test and Dunn's post-hoc analysis.

Results:
Significant variations in %EBWL between BMS techniques was found at various post-operative time-points. Median %EBWL at 1-4 months was 14.4% post-GB, 17.8% post-SG, 26.7% post-RYGB and 32.8% post-SADI-S. One year post-operatively, %EBWL was 23.9% post-GB, 55.6% post-SG, 69.8% post-RYGB and 64.0% post-SADI-S. Two years post-operatively, %EBWL was 30.6% post-GB, 53.4% post-SG, 74.2% post-RYGB and 75.7% post-SADI-S. For the cohort of patients that had weight loss data recorded up to 6 years post-operatively, median %EBWL was 30.6% post-GB, 37.0% post-SG, 63.8% post-RYGB and 56.0% post-SADI-S. At all post-operative time-points, the difference in weight-loss outcomes between the 4 surgeries was statistically significant.

Conclusion:
Weight-loss outcomes from BMS performed at a publicly-funded centre in Australia are comparable to international literature, with larger and more-sustained weight loss after RYGB and SADI-S compared with GB and SG.

Oral

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Long-term outcomes and quality of life following Roux-en-Y gastric bypass surgery

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Background:
With increasing use of anti-obesity medications, many patients are considering alternatives to long-term drug therapy. It is vital to provide long-term data on outcomes, satisfaction, and quality of life measures in patients who have undergone metabolic bariatric surgery (MBS).

Objective:
The aim of this study was to examine the 10-year outcomes of patients who underwent Laparoscopic Gastric Bypass Surgery (LGB).

Methods:
Data collected in the Ontario Bariatric Registry between 2011-2023 were used to compare 10-year outcomes of patients who underwent LGB. The analysis included patients with complete 10-year follow-up data. Primary outcomes included weight loss, comorbidities, health related quality of life (HRQoL), patient satisfaction with bariatric treatment and revision/conversion MBS.

Results:
This study included 277 patients who underwent LGB between 2010 and 2013. At baseline, the mean age was 46.3 years and the mean BMI was 47.67 kg/m2. After 10 years, the mean BMI decreased to 33.89 kg/m2 and there was a significant improvement in obesity-related comorbidities and HRQoL as measured by the EQ-5D (Table 1). At 10 years, 86% of patients reported satisfaction with their treatment outcomes despite 3% requiring revision procedures due to recurrent weight gain, marginal ulcer, hernia or obstruction.

Conclusions:
This study demonstrates that LGB provides excellent long-term weight loss and improvement in obesity related comorbidities at 10 years after surgery. Patients continue to experience long-term improvement in quality of life and remain satisfied with their bariatric treatment.

Table 1: Outcomes

	Baseline	10 Years	p-value
BMI (kg/m^2)	47.67	33.89	<0.001
Type 2 Diabetes N (%)	80 (29%)	46 (17%)	<0.001
GERD N (%)	128 (46%)	84 (30%)	<0.001
Hypertension N (%)	153 (55%)	86 (31%)	<0.001

Hyperlipidemia N (%)	106 (38%)	41 (15%)	<0.001
Sleep Apnea N (%)	130 (47%)	56 (20%)	<0.001
HRQoL (EQ-5D VAS Score)	59.44	72.40	<0.001

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Long-term outcomes of laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSG-DJB): a retrospective analysis

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Introduction:
Laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSG-DJB) was pioneered at our center in 2007, with over 300 cases performed to date. LSG-DJB combines sleeve gastrectomy with proximal intestinal bypass and is particularly relevant in regions with a high prevalence of gastric cancer.

Methods:
We conducted a retrospective analysis of our center's long-term outcomes following LSG-DJB, focusing on safety, weight loss, glycemic control, gastroesophageal reflux, and the necessity for revision surgery. Medium-term results were previously published (Seki Y, et al. Obes Surg 2017), demonstrating safety and durability over 5 years.

Results:
Long-term data beyond 5 years have not been reported in the literature. Our presentation will provide an overview of our center's experience with LSG-DJB, including extended follow-up outcomes. Preliminary analysis suggests sustained efficacy in weight loss and glycemic control, with favorable safety profiles. Furthermore, we will assess the impact on gastroesophageal reflux and the incidence of revision surgery.

Conclusion:
This retrospective analysis offers insights into the long-term outcomes of LSG-DJB, elucidating its role as a viable option for weight loss and glycemic control, particularly in regions with a high incidence of gastric cancer. Continued research is warranted to further delineate its efficacy and safety beyond the medium-term follow-up.

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Long-term patient satisfaction with Roux-en-Y gastric bypass and sleeve gastrectomy: a 10-year follow-up study

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Background:
While the long-term effects of Metabolic Bariatric Surgery on weight loss and comorbidities have been reported, concerns persist regarding health-related quality of life (HRQoL) and patient satisfaction due to recurrent weight gain and complications experienced by some patients.

Objective:
This study aims to compare 10-year HRQoL and patient satisfaction among patients who underwent laparoscopic sleeve gastrectomy (LSG) and laparoscopic gastric bypass (LGB).

Methods:
Data collected in the Ontario Bariatric Registry between 2010–2023 were used to compare 10-year outcomes of patients who underwent LSG or LGB between 2010-2013. Primary outcomes include HRQoL, as measured by the EQ-5D VAS, patient satisfaction, and revisions/conversions.

Results:
This study included 326 patients with 10-year data after undergoing LSG (N=49) or LGB (N = 277). Ten years after surgery, patients in both the LSG and LGB groups reported improvements in HRQoL (VAS: 56.73 at baseline vs. 68.66 at 10 years for LSG; 59.44 at baseline vs. 72.40 at 10 years for LGB). Both groups remained highly satisfied (78% LSG; 86% LGB) with their bariatric surgery, with the LGB group reporting higher satisfaction levels. This is despite 8% in the LSG group requiring unplanned conversion (due to recurrent weight gain or dysphasia); and 3% in the LGB group requiring revision (due to marginal ulcer, recurrent weight gain, hernia, or obstruction)

Conclusions:
Both LSG and LGB provide long-term improvement in HRQoL for patients with severe obesity and patients remain highly satisfied with their bariatric treatment.

	LSG		**LGB**	
	Baseline	**10 years**	**Baseline**	**10 years**
Male N (%)	10 (20.4%)		27 (9.7%)	
Female N (%)	39 (79.6%)		250 (90.3%)	
Age (mean)	47.33		46.31	

BMI (mean)	54.93	40.22	47.67	33.89
EQ-5D VAS (mean)	56.73	68.66	59.44	72.40
Satisfaction (Satisfied/Very Satisfied)		38 (78%)		237 (86%)

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Metabolic and bariatric surgery in patients with class I obesity; a two-year follow-up

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Background:
Patients with class I obesity may need metabolic and bariatric surgery (MBS) in the presence of obesity-associated medical problems, but MBS in this class of obesity is under debate. This study aimed to investigate the efficacy and safety of MBS in patients with class I obesity.

Methods and materials:
This study was a historical cohort carried out on 112 patients with class I obesity with body mass index (BMI) of 30–35 kg/m2 with a 24-month follow-up underwent MBS at Rasoul-e-Akram Hospital. The required data were extracted through the Iran National Obesity Surgery Database. The data required for the study consisted of demographic information such as age, gender, and obesity-associated medical problems like type-2diabetes mellitus (T2DM), hypertension, obstructive sleep apnea, and dyslipidemia before surgery, 6, 12, and 24months after surgery.

Results:
Mean age of the patients was 38.10 ± 10.04 years; mean BMI was 32.96 ± 1.35 kg/m2 and 83.9% (n = 94) of patients were female. Out of 18 patients with T2DM, 11 patients (61.11%) had complete remission and seven patients (38.88%) had partial remission. Obstructive sleep apnea, hypertension, dyslipidemia, and gastroesophageal reflux disease were observed in 18 (16.07%), 23 (20.53%), 43 (38.39%), and 13 patients (11.60%) before surgery and resolved at 24-month follow-up. Post-operative complications during the 24-month follow-up were checked to assess safety and there were no De novo gastroesophageal reflux disease, intolerance, leakage, pulmonary thromboembolism, deep vein thrombosis, incisional hernia, hypoalbuminemia (Albumin < 3.5 g/dl), excessive weightloss (BMI < 18.5 kg/m2) at any time during 24-months follow-ups and mortality. Early complications occurred assplenic injury in one case (0.89%), wound infection in one patient (0.89%), and extra-luminal bleeding in 10 (8.92%)after surgery, without any mortality.

Conclusion:
MBS is safe and effective in class I obesity and can be considered in selected patients with obesity-associated medical problems.

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Metabolic and Bariatric Surgery Training and Practice in Pakistan: Identifying barriers and Proposing Solutions

Haseeb Javed Khan, Tahir Yunus, Abdul Kamil Ghumman, Abdelrahman Nimeri, Tanvir Razi

Introduction:
Pakistan, the fifth most populous country with 241.5 million people by 2023, faces significant health challenges, with diabetes and obesity rates at 26.7% and 43.9%, respectively. The field of metabolic and bariatric surgery (MBS) is in its early stages, with fewer than 100 formally trained MBS surgeons and only two fellowship programs offered. This lack of specialized training has resulted in complications from MBS procedures performed by inadequately trained surgeons. Urgent nationwide development of MBS programs is imperative to address these challenges.

Methods:
A survey was distributed among surgery residents, fellows, and consultants in major hospitals across Pakistan. Designed using Google Forms, the questionnaire included consent and biodata forms, along with 8 questions each addressing barriers and solutions in MBS training and practice. Responses were evaluated using a 5-point Likert scale. Reliability analysis, descriptive statistics, and the Pearson chi-square test were utilized for data analysis.

Results:
We received 55 responses from 25 hospitals nationwide between February and March 2024. Participants, with an average age of 37.7 ± 10.2 years and 21.8% female representation, included residents (38.2%), fellows (20%), and consultant surgeons (41.8%). Notably, 27.3% had formal MBS training, while 12.7% had over 5 years of experience. Key barriers identified encompassed limited public and surgeon awareness, financial limitations, unclear guidelines, faculty shortages, societal stigma, and policy gaps regarding MBS as a treatment for obesity. Proposed solutions included media campaigns, international collaborations, exchange programs, policy reforms, establishing a national MBS registry and center of excellence, mentorship programs, and tailored guidelines by the Pakistan Society of Metabolic and Bariatric Surgery (PSMBS).

Conclusion:
Implementing solutions to identified barriers is vital for advancing metabolic and bariatric surgery in Pakistan and improving healthcare outcomes amidst obesity and diabetes epidemics.

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Metabolic bariatric surgery and changes in medication usage - randomised controlled trial comparing sleeve gastrectomy and Roux-en-Y gastric bypass

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Background:
Metabolic bariatric surgery (MBS) is a proven method for weight loss and improvement in obesity-related comorbidities. This can result in a significant change in medication usage which is likely to confer reduction in overall healthcare burden. There is a paucity of data comparing Silastic Ring Laparoscopic Roux-en-Y Gastric Bypass (SR-LRYGB) and Laparoscopic Sleeve Gastrectomy (LSG) in a randomised and double blinded setting.

Objectives:
In people with obesity and type 2 diabetes mellitus who underwent SR-LRYGB and LSG:

Identify and quantify if there is an overall reduction in medication usage for each group

Identify and quantify if there is a difference in medication usage change between the two groups

Methods:
A single centre, double-blinded, randomised controlled trial was carried out. Eligible patients were randomised to undergo either SR-LRYGB or LSG. Prescribed medication usage was documented pre-operatively and at regular follow up intervals. Data was collated for five years post-operatively. Ten year postoperative data is currently being collated and due for completion in August 2024. Statistical analysis was completed using Poisson regression and generalised estimating equations to test for statistically significant changes in usage.

Results:
104 patients completed follow up, 52 per group. Eight patients were lost to follow up. The initial analysis compared baseline data to five year follow up data. Oral anti-diabetic medications had a greater reduction in usage with SR-LRYGB compared to LSG (79% vs 55%, p=0.036). There were no differences between SR-LRYGB versus LSG regarding other medication changes. The total number of medications prescribed was reduced by 10% compared to preoperative levels. Prescriptions for insulin and cardiovascular medications reduced (72% and 56% respectively). Prescriptions for analgesia, psychiatric medications and proton-pump inhibitors increased (50%, 133% and 81% respectively).

Conclusion:
Both MBS groups had reduced use of diabetic and cardiovascular medications and increased use of nutritional supplementation, analgesia and psychiatric medications at five years following surgery. SR-LRYGB was more effective than LSG at reducing anti-diabetic medication usage at five years. Ten year analysis for medication changes will be completed by August 2024.

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Metabolic resolution and its predictive factors after bariatric surgery: 5-year outcomes

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Background:
Bariatric surgery has emerged as an increasingly recognized option for individuals with severe obesity, offering long-term weight loss and relief from related comorbidities. However, there remains less data, particularly for Asian populations, regarding long-term outcomes and predictive factors for metabolic resolution.

Objective:
This study aimed to assess the metabolic outcomes in patients undergoing bariatric surgery. Specifically, the study evaluated the resolution of type2 diabetes mellitus(T2DM), hypertension(HT), dyslipidemia(DLP), metabolic syndrome(MetS) after surgery, as well as analyzed predictive factors influencing these outcomes.

Methods:
A retrospective analysis was conducted on the patients who underwent laparoscopic Roux-en-Y gastric bypass(LRYGB) or sleeve gastrectomy(LSG) at a tertiary care facility between January 2012 and December 2022. Surgical techniques, postoperative follow-up processes, and patient characteristics were recorded. Remission and improvement rates for metabolic parameters were evaluated over a 5-year follow-up period, and statistical analyses were performed to identify predictive factors.

Results:
A total of 581 patients were analyzed. The number of patients with T2DM, HT, DLP and MetS were 154 (26.5%), 162 (27.8%) ,173 (29.7 %), 407 (70.0%), respectively. Remission of T2DM was achieved in 79.1% of cases, with 99.3% experiencing either remission or improvement. Predictive factors for T2DM remission included duration of T2DM (adj.HR 0.43, 95%CI:0.24-0.75). Dyslipidemia exhibited a remission rate of 33.9%, with a combined remission and improvement of 55.2%. Remission of dyslipidemia was significantly associated with the bariatric operation method, with LRYGB being more effective than LSG (adj.HR 2.26, 95%CI:1.16 - 4.38). Hypertension showed remission in 36.0% of patients, with 84.8% experiencing either remission or improvement. Predictors of hypertension remission included younger age (adj.HR 2.09, 95%CI:1.23-3.53) and fewer preoperative antihypertensive medications (adj.HR 0.62, 95%CI:0.47-0.83). Metabolic syndrome demonstrated remission in 79.6% of patients, with an additional 88.4% experiencing either remission or improvement. Remission of metabolic syndrome correlated with female gender (adj.HR 0.43, 95%CI:0.24-0.75), preoperative BMI (adj.HR 0. 83, 95%CI:0.65-1.05), and lower fasting blood sugar levels (adj.HR 1.42, 95%CI:1.08-1.87).

Conclusion:
These results highlight the effectiveness of bariatric surgery in managing metabolic comorbidities, with various predictive factors playing a crucial role in determining outcomes. Healthcare administrators who have concerns about cost-effectiveness in our local area would especially benefit from these findings.

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Micronutrient deficiencies in bariatric surgery; a comparison of Roux-en-Y, one anastomosis gastric bypass and sleeve gastrectomy

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Background:
Bariatric surgery is an effective management tool for patients with obesity, with sleeve gastrectomy and gastric bypass being popular globally. However, there has been an increasing concern about micronutrient deficiencies as a complication of bariatric surgery due to the physiological and anatomical changes that occur. Some studies have compared the incidence of micronutrient deficiencies in sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB), but little research has been done on one anastomosis gastric bypass (OAGB). This study aims to compare micronutrient deficiencies in SG, RYGB, and OAGB, as well as investigate the effects of compliance with follow-up, pre-operative micronutrient deficiencies, and diet on the incidence of micronutrient deficiencies. The study also analyzed the length of the alimentary limb and the rate of complications, and their association with micronutrient deficiencies

Objective:
The main purpose of this study is to compare the incidence and type of micronutrient deficiencies in patients who have undergone either SG, RYGB, or OAGB. The study also aims to analyse the relationship between micronutrient deficiencies and factors such as compliance with post-operative follow-up, pre-existing micronutrient deficiencies, diet, length of alimentary limb, and complication rates.

Methods:
The study included 250 patients from a private database in a single centre, with 150 patients in each population group who underwent either a SG or OAGB and 50 patients who underwent a RYGB between 2020-2023 in Brisbane, Australia. The study analyzed the rate of micronutrient deficiencies before and at 6 months and 1-year intervals after the surgery. Additionally, a sub-analysis was conducted to include pre-operative deficiencies, diet, compliance with post-operative follow-up, length of alimentary limb, and complication rate

Results:
Final data-analysis pending.

Conclusion:
There was no significant difference in micronutrient deficiencies after surgery between the groups of patients who underwent SG, RYGB, or OAGB procedures. The most significant factor that contributed to micronutrient deficiencies was its pre-existence before the surgery. There was no significant correlation found between diet, post-operative compliance, length of alimentary limb or complication rates with micronutrient deficiencies.

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Midterm outcomes of one anastomosis gastric bypass for patients with BMI<35 kg/m2 from a large single center

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Background:
One-anastomosis gastric bypass (OAGB) is gaining more attention in patients with severe obesity and recently is used for patients with body mass index (BMI)<35 kg/m2. In this 5-year single center experience we aim to report our outcomes of using OAGB for patients with BMI<35 kg/m2.

Methods:
This is a retrospective analysis of prospectively collected data recorded in to our national obesity registry database. Variables including age, sex, weight, BMI, any associated disease, blood levels of metabolic markers, nutrients, and vitamins before and after surgery were extracted and analyzed.

Results:
174 patients with mean age and BMI of 41±10 years and 33±1 kg/m^2 underwent OAGB and at least one of the obesity-associated medical problems was found in 88 (50.5%) of them preoperatively. The mean biliopancreatic limb length, duration of surgery, and length of hospital stay were 134.8±26.9 cm, 60.7±7.4 minutes, and 1.3±1.4 days. 78% and 70% of patients had available data at 24 and 60 months, respectively. The mean BMI was 23.9±2.2 kg/m^2 one year after surgery and each year after that till 5 years was 24±2, 24.4±2.6, 25.6±2.7, and 25.5±2.7 kg/m^2. Significant improvement in levels of fasting blood glucose, lipid profile, and liver enzymes were observed.

Conclusion:
OAGB for BMI<35 kg/m2 has significant effects in weight loss, helps remit diabetes and hypertension in the majority of cases, improves lipid profile, and has no increased burden of postoperative problems or deficiency in nutritional factors rather than what is known and predictable.

Keywords: Bariatric surgery; Gastric bypass; BMI 35 kg/m2; One anastomosis gastric bypass; Metabolic surgery

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Mid-term results of a randomized clinical trial - Single Anastomosis Duodeno-Ileal Bypass versus Biliopancreatic Diversion with Duodenal Switch

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Background:
Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI) and Biliopancreatic Diversion with Duodenal Switch (BPD/DS) are surgical interventions for obesity treatment. In response to challenges associated with the BPD/DS procedure, the SADI was introduced to optimize surgical efficiency and reduce postoperative risks, all the while ensuring therapeutic efficacy.

Objective:
This study systematically compared the clinical outcomes of SADI and BPD/DS procedures regarding weight loss, effects on associated medical diseases, and malnutrition and summarizes med-term results of a randomized clinical trial.

Methods:
56 patients with a body mass index (BMI) ranging from 42 to 72 kg/m were randomly assigned to either the SADI or BPD/DS procedure. Parameters compared included % excess weight loss (%EWL), % total weight loss (%TWL), remission of hypertension (HT), obstructive sleep apnea (OSA), type 2 diabetes (T2D), hyperlipidemia (HL), and nutritional variables.

Results:
Both groups had similar demographics and baseline characteristics. After three years, analysis revealed no significant differences in %EWL and %TWL between the SADI and BPD/DS procedures, with SADI achieving 78.5% ± 23.6% and 35.9% ± 10.6% respectively, compared to 84.1% ± 13.2% and 38.9% ± 6.2% for BPD/DS. The resolution rates for associated medical diseases such as HT, OSA, T2D and HL were similar. Improvements in HbA1C levels, fasting glucose, and overall lipid profiles, including the LDL/HDL ratios, showed no significant difference between the groups. However, deficiencies in vitamins A, E, and D were notably lower in the SADI group, recorded at 13.6% vs. 47.6%, 9.1% vs. 38.1%, and 20.8% vs. 73.1% respectively, whereas levels of albumin, ferritin, zinc, and vitamins B1 and B6 were similar between the groups. In response to nutritional deficiencies, two patients who had undergone BPD/DS required corrective procedures, specifically the proximalization of the enteroanastomosis, to address malnutrition issues.

Conclusion:
This randomized clinical trial suggests that both the SADI and BPD/DS yield comparable weight loss outcomes and remission rates of associated medical diseases after three years. However, nutritional deficiencies are more prevalent following the BPD/DS procedure, requiring surgical intervention for malnutrition in certain instances. Registration number: NCT03938571 (http://www.clinicaltrials.gov)

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Minimal important difference in weight loss following bariatric surgery: enhancing BODY-Q interpretability

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Background:
BODY-Q is a patient-reported outcome measure for comprehensive assessment of outcomes specific to patients undergoing bariatric surgery. The clinical utility of BODY-Q is hampered by the lack of guidance on score interpretation.

Objective:
This study aimed to determine minimal important difference (MID) for assessment of the BODY-Q.

Methods:
Prospective BODY-Q data from Denmark and the Netherlands pre- and post-bariatric surgery were collected. The distribution-based method was used to estimate MID by 0.2 standard deviations of baseline BODY-Q scores and the mean standardized response change of scores from baseline to 3-years postoperatively.

Results:
In total, 5,476 assessments from 2,253 participants were included in this study of which 1,628 (72.3%) underwent Roux-en-Y gastric bypass, 586 (26.0%) sleeve gastrectomy, 33 (1.5%) gastric banding, and 6 (0.03%) other surgeries. The mean age was 45.1 (SD 10.9) with a mean Body Mass Index (BMI) of 46.6 (SD 9.6). Baseline MID ranged from 1-4 in health-related quality of life (HRQL) and from 2-8 in appearance scales. The mean change of scores ranged from 3-5 in HRQL and from 4-8 in the appearance scales.

Conclusions:
The estimated MID for the change in BODY-Q HRQL and appearance scales ranged from 3 to 8 and is recommended for use to interpret BODY-Q scores and assess treatment effects in bariatric surgery.

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Much ado about copper and zinc - an Australian perspective.

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Background:
Metabolic and Bariatric Surgery (MBS) predisposes patients to nutritional deficiencies. There are limited studies on zinc and copper abnormalities in this cohort.

Objective:
This study aimed to identify the prevalence of this abnormality in a cohort of patients having MBS in Australia. Inflammatory markers, adherence to multivitamin supplementation (MVS) and the presence of gastrointestinal (GI) symptoms were also investigated.

Methods:
Data was collected on all patients who attended a single clinic in Sydney, Australia, from August 2020 to August 2021.

Results:
The study cohort consisted of 231 patients (76.2% female; mean pre-operative Body Mass Index of 43.4 ± 7.1 kg/m^2) most of whom underwent sleeve gastrectomy (78.8%). Data were collected preoperatively and then at ≤ 6 months, 1 and >2 years postoperatively. Before surgery low levels of zinc (2.1%) and copper (0.7%) were rare, but elevated copper levels were common (16.7%) and potentially related to an elevated C-reactive protein (CRP) (47.7%). Following surgery at >2 years, the mean total weight loss (TWL) was 33.5 ± 12.4. CRP levels improved over time. Postoperatively low zinc (2.7 - 3.6%) and copper (1.5%) levels were rare. Patients with low levels of zinc and copper were a higher risk group, and generally exhibited GI symptoms, despite taking MVS.

Conclusion:
MBS results in durable weight loss, however, nutritional concerns remain an issue. In the initial stages post-op, with improvement in inflammatory markers and good adherence to MVS, deficiencies may not be a concern. However, as nutrient stores deplete and the adherence to MVS declines over time, the risk of complications increases. Furthermore, patients with GI symptoms, are at higher risk of unusual nutritional abnormalities such as Zinc and Copper. The majority are subclinical and may not manifest as harmful side effects. However, for those who may be at risk, due to gastrointestinal symptoms and Hypoabsorption, potentially irreversible complications may arise. Undertaking a broad blood investigative panel including the less commonly tested micronutrients in these circumstances may optimise treatment and prevent such complications.

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Navigating the landscape of enhanced recovery after bariatric surgery: a comprehensive analysis of ERABS implementation in Italian bariatric centers

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Background:
The escalating global prevalence of metabolic bariatric procedures necessitates an enhanced focus on optimizing perioperative care for improved patient outcomes. This study focuses on the implementation of Enhanced Recovery After Bariatric Surgery (ERABS) protocols in Italian bariatric centers to optimize perioperative care.

Objectives:
The primary aim of this study is to investigate the actual implementation of ERAS protocols within Italian bariatric centers, thereby providing an objective assessment of the current state of adherence to these principles.

Methods:
An online survey comprising 19 items was conducted in October 2023, targeting managing surgeons in 139 registered bariatric centers. The survey explored geographic and center-type variations, knowledge, and application of ERABS protocols, along with perioperative, intraoperative, and postoperative practices. Statistical analysis employed included one-way ANOVA and Tukey post hoc tests.

Results:
Responses from 72 centers (51.8%) revealed a strong awareness of ERABS protocols among managing surgeons. Adherence rates varied geographically (46.3%-63%) and among center types (60.8%-56.3%). Perioperative practices, including the abandonment of antibiotics for perioperative prophylaxis by 77.5% of surgeons and the adoption of the TAP block technique in 69% of centers, aligned well with ERABS recommendations. However, inconsistencies were noted in abdominal drain usage, with a substantial percentage not adhering to ERABS guidelines. Intraoperative habits generally adhered to ERABS protocols, yet preferences for certain tests, particularly the methylene blue test, deviated. Postoperative practices displayed positive trends, with early reintroduction of oral feeding and opioid-free pain management. Variations existed in discharge timing and patient monitoring, indicating areas for further improvement.

Conclusion:
The study offers a comprehensive snapshot of ERABS protocol adherence in Italy, emphasizing the positive trend toward optimizing recovery and reducing patient stress. Despite variations, a majority of centers demonstrated commitment to ERABS principles. Ongoing education, interdisciplinary collaboration, and nationwide dialogue are essential for standardizing ERABS protocols and advancing metabolic bariatric surgery outcomes in Italy.

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Need for subsequent (revisional) surgery 5-years following metabolic bariatric surgery – results from the Australian Bariatric Surgery Registry

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Introduction:
Subsequent (revisional) procedures following a Metabolic Bariatric Surgical (MBS) procedure are indicated for early complications of surgery, late complications of surgery and for suboptimal weight control. Cohort studies and case series variably suggest 15-50% revision rates within 5 years of their index MBS procedure. This study aimed to provide the first real world data on the need for subsequent surgery following MBS.

Methods:
Time-to-revision analysis was conducted on patients in the Australian Bariatric Surgery Registry with a primary procedure occurring on or before 30th June 2022, subsequent (revision) procedures occurred on or before 31st December 2022. Cumulative incidence of revision was calculated up to 5 years with Kaplan-Meier (failure) estimates using time-to-revision (/ censoring) intervals.

Results:
There were 117,579 (78.4% female) patients who fulfilled inclusion criteria with 29,950 who had completed 5 year follow up (76.7% female). At 5 years the overall risk of any subsequent procedure was 7% with a trend of more women than men undergoing revisional procedures. Revisional rates at five years were highest for gastric bands (20%; n=3.887). Roux-en-Y gastric bypass (RYGB) had the highest rate of reintervention in year one (4%; n=7884). The rate of revision for sleeve gastrectomy appears to be increasing at the 5-year mark, with an increase from 2% at 4 years to 4% at year 5 (n=23.203).

Discussion:
The overall need for subsequent procedures is lower in this real world registry than that reported in previous studies. Gastric bands have the highest need for reintervention at 5-years, whereas RYGB has the highest need for reintervention within 12 months, suggesting most interventions are due to complications of the index procedure. The increase in rate of intervention for sleeve gastrectomy at later time points suggests that there may be an emerging need to convert sleeve gastrectomy and is a trend that will need to be monitored.

Conclusion:
This is the first real world data documenting the need for subsequent procedures after MBS. The data will be important as part of informed consent for consumers and also for payers enabling better health service delivery planning.

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Network meta-analysis of endoscopic sleeve gastroplasty versus pharmacotherapy and lifestyle intervention for the treatment of severe obesity

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Background:
Endoscopic sleeve gastroplasty (ESG) has emerged as a promising alternative to bariatric surgery by offering a minimally invasive procedure for the treatment of obesity. However, the safety and efficacy of ESG remains uncertain when compared to conservative treatment options like pharmacotherapy and lifestyle intervention.

Objectives:
This systematic review and network meta-analysis aims to compare the efficacy and safety of endoscopic sleeve gastroplasty (ESG) versus liraglutide 3.0mg and lifestyle intervention for the treatment of severe obesity ≥ 30 kg/m^2.

Methods:
4 electronic databases were searched from inception till January 2023. Studies were included if they compared outcomes of ESG or liraglutide 3.0mg versus lifestyle intervention in patients with BMI ≥ 30 kg/m^2. The outcomes of interest were weight loss, improvement of metabolic parameters, and serious adverse events.

Results:
A total of 23 studies with 7765 patients were included. 4 studies compared ESG (n = 236) versus lifestyle intervention (n = 427). 19 studies compared liraglutide 3.0mg (n = 4269) versus lifestyle intervention (n = 2833). There were no studies that compared ESG versus liraglutide directly. Lifestyle intervention included dietary caloric restriction, physical activity recommendations and relevant counselling. The mean baseline BMI of included participants was 37.6 kg/m^2. ESG offered superior percentage of total weight loss (%TWL) as compared to liraglutide (Mean difference (MD): 4.58, 95% Confidence interval (CI): 2.65-6.50, I^2 = 90.1%), and lifestyle intervention (MD: 8.99, 95% CI: 7.21-10.8, I^2 = 90.1%). There was a corresponding higher rate of serious adverse events in ESG compared to liraglutide (Odds Ratio (OR): 9.19, 95% CI: 1.00-84.0, I^2 = 90.7%), and lifestyle intervention (OR: 27.9, 95% CI: 3.05-256.6, I^2 = 90.7%). In terms of metabolic parameters, liraglutide resulted in a greater reduction in glycated haemoglobin (MD: 0.23, 95% CI: 0.20-0.26, I^2 = 89.0%), LDL cholesterol (MD: 6.04 95% CI: 4.93-7.15, I^2 = 0%), and systolic blood pressure (MD: 2.66, 95% CI: 1.77-3.55, I^2 = 91%) as compared to lifestyle intervention.

Conclusion:
ESG achieved superior weight loss outcomes compared to liraglutide 3.0mg and lifestyle intervention. These benefits should be balanced against the potential increased serious adverse events as compared to conservative management.

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Neural correlates of sleeve gastrectomy-induced food preference changes in mice and investigation of gut taste receptors as an underlying mechanism.

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Up to 75% of people report a reduced craving, and liking, of highly palatable foods after metabolic-bariatric surgery. The mechanisms by which these surgeries lead to alterations in eating behaviour are incompletely understood. Gut-brain axis signalling via gastrointestinal taste receptors is one candidate mechanism.

This study aims to investigate the role of gastrointestinal sweet and fatty taste receptors in the decreased preference for highly palatable foods seen after sleeve gastrectomy (SG). It also aims to characterise possible taste and reward neural correlates associated with these food preference and taste receptor changes. Ten-week-old lean male C57BL/6J mice were randomised to sleeve gastrectomy or sham surgery and underwent a series of two-bottle taste preference tests for different concentrations of glucose (4%, 8%, and 16%) and isocaloric intralipid (1.6%, 3.2%, 6.4%) solutions beginning seven days post-surgery.

Mice were provided ad libitum access to standard rodent chow throughout the duration of the experiment. At the end of behavioural testing duodenum, jejunum, and ileum were collected for RNA sequencing and quantitative PCR. Brains were perfused and immunohistochemical analyses performed to assess protein expression of c-Fos in taste and reward regions in response to ingestion of highly palatable solutions post-surgery.

Sleeve gastrectomy (n=30) reduced 24-hour intake of glucose (mean SG 18.0g, mean sham 23.6g, diff -5.6, p=0.016) and intralipid (mean SG 16.1g, mean sham 22.0g, diff -5.9g, p 0.05) compared to sham surgery controls (n=30). It also reduced preference for glucose compared to water by 8.2% (±3.649, p=0.029). Sleeve gastrectomy mice were protected from the progressive weight gain of up to 9% total body weight seen in the control group over 40 weeks. Immunohistochemistry, RNA sequencing and qPCR analysis are ongoing and are expected to be completed by June 2024.

Sleeve gastrectomy reduces intake of highly palatable foods and prevents weight gain in lean male mice. Ongoing neurochemical analysis will reveal the neural correlates of this change in taste preference. Transcriptomic analysis will investigate gut-brain axis signalling via gastrointestinal taste receptors as a potential underlying mechanism.

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Nomogram to predict remission of oligo-/amenorrhea after sleeve gastrectomy in patients with polycystic ovary syndrome

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Background:
Bariatric metabolic surgery is effective in remission of oligo-/amenorrhea (ROA) in patients with polycystic ovary syndrome (PCOS). Preoperative prediction of ROA is needed.

Objective:
To develop and validate a nomogram to predict ROA after sleeve gastrectomy (SG) in patients with oligo-/anovulatory PCOS.

Methods:
Data on 214 patients with oligo-/anovulatory PCOS who underwent SG between January, 2020, and June, 2022, were prospectively collected. Patients from Qilu Hospital of Shandong University in an earlier period formed the training cohort (n=135) for nomogram development. Those from the same hospital thereafter formed the internal validation cohort (n=39). Those from the third Xiangya Hospital of Central South University and the First Affiliated Hospital of Shandong First Medical University formed the external validation cohort (n=40).

Results:
ROA was achieved in 155 of 214 patients after SG in one-year follow-up. Positive independent predictors of ROA were waist-hip ratio, total testosterone, non-high density lipoprotein-cholesterol and area under the curve of insulin during oral glucose tolerance test. Prolactin and homeostasis model assessment of insulin resistance were negative independent predictors of ROA. The nomogram's areas under the curve were 0.85 (95%CI, 0.77-0.94), 0.86 (95%CI, 0.77-0.94) and 0.83 (95%CI, 0.70-0.96) in the training, internal validation and external validation cohorts, respectively. Preoperative body mass index, adipose tissue distribution and hepatic steatosis did not associate with ROA after SG.

Conclusion:
SG achieved significant ROA in patients with oligo-/anovulatory PCOS. A nomogram combining six preoperative factors was developed and validated to predict ROA.

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Non-acid reflux following bariatric surgery; detailed physiological evaluation

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Background:
Non-acid reflux of injurious stomach contents, in particular bile, is suspected following bariatric surgery (BS), mediating adverse symptoms as well as requirement for reoperations and potentially mediating progression to Barrett's and malignancy. What remains unclear is the incidence, significance, and pathophysiological mechanisms of non-acid and bile reflux in this population. Descriptive studies identifying whether non-acid and bile reflux are genuine entities following BS have not yet been performed.

Objective:
To determine the incidence and underlying mechanisms of non-acid reflux following BS.

Methods:
Post-sleeve gastrectomy (SG) and one anastomosis gastric bypass (OAGB) patients underwent hepatobiliary iminodiacetic acid scintigraphy (HIDA) (n=23) to determine the incidence of bile reflux. Eighteen severely symptomatic patients (SG and OAGB) underwent detailed high-resolution oesophageal manometry (HRM), and 24-hour multi-channel intraluminal impedance monitoring and pH (MII-pH). Protocolised nuclear scintigraphy was conducted to delineate post-prandial reflux and gastric emptying. Ten pre-operative patients with obesity were used as controls.

Results:
Demographics data: Age; 43.6±11.2 years, TWL; 30±13%, post-operative duration 3±2 years. HIDA data showed no significant differences in gastric bile activity between pre-ops and bariatric patients, 2.3 (IQR2.3-7.3) vs 6.4 (3.7-12.1)%, p=0.179. Baseline HRM showed 100% normal oesophageal peristalsis, 66.7% of patients had axial separation of median 3 (1-5)cm, with 7.5 (4.9-14.2)% LOS basal tone relaxation. MII-pH showed a high incidence of non-acid reflux compared to acid (30 (IQR18-40) vs 19 (5-19) events, p=0.051. Non-acid reflux was predominately following a meal, accounting for 78.3 (IQR 67.5-87.2)% of the total number of events. Detailed HRM denoted acute elevations in intragastric pressure (mean 8.3 mmHg) within the hiatus hernia associated with gastro-oesophageal micro non-acid reflux events. Nuclear scintigraphy delineated 26 (IQR 23-28) post-prandial reflux events during the 90-minute study, with a gastric emptying half-time of 27 (IQR23-39) minutes.

Conclusion:
Novel patterns of non-acid reflux have been identified, with significantly a higher incidence of reflux episodes in the post-prandial period. Non-acid reflux was associated with an elevated intragastric pressure within the hiatus hernia. Differences in bile production between pre-ops and bariatric patients was not identified on HIDA studies. This study provides solid evidence of non-acid reflux which is a significant issue following BS and require evaluation symptomatic patients.

Oral

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OAGB or RYGB as Revisional Surgery for Failed Gastric Banding: A Comparison of Weight Loss Outcomes

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Background:
Laparoscopic Adjustable Gastric Banding (LAGB) is now rarely performed due to limited long-term weight loss and patient intolerance. Determining the optimal revisional procedure for weight loss after failed LAGB remains unclear.

Methods:
A retrospective analysis reviewed data (2015-2021) from a UK centre on patients who underwent revisional One Anastomosis Gastric Bypass (OAGB) and Roux-en-Y Gastric Bypass (RYGB) after LAGB. The primary outcome was the percentage total weight loss (%TWL) at 2 years. Post-operative complications were secondary outcomes.

Surgical Techniques:

* OAGB: A long, narrow gastric pouch was created reaching the incisura. Biliary limb length was 150-200cm.

* RYGB: A shorter gastric pouch was formed with a 50-70cm biliary limb and a 100cm Roux limb.

Both procedures used a 30mm linear stapler for the gastro-jejunostomy.

Results:
Ninety patients underwent revisional surgery: 69 (77%) received OAGB and 21 (23%) received RYGB. The OAGB group had a higher pre-operative Body Mass Index (BMI) (44.4 vs. 38.6). Both groups experienced significant BMI reductions at 2 years (33.7 in OAGB, 31.1 in RYGB). This translates to a %TWL of 24.4% for OAGB and 19.9% for RYGB ($p = 0.03$), favouring OAGB. Post-operative complication rates were similar between the groups.

Conclusion:
This study suggests that OAGB might achieve greater %TWL at 2 years compared to RYGB following failed LAGB. These findings indicate OAGB as a potentially superior revisional option, but further research is necessary to confirm long-term efficacy.

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OAGB or RYGB as revisional surgery for failed sleeve gastrectomy: a comparison of weight loss outcomes

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Objective:
This study compared the effectiveness of revisional One Anastomosis Gastric Bypass (OAGB) and Roux-en-Y Gastric Bypass (RYGB) for weight loss after Laparoscopic Sleeve Gastrectomy (LSG).

Background:
Despite being the most common bariatric procedure, sleeve gastrectomy is associated with recurrent weight gain and reflux which may require revisional surgery. This study investigates which revisional approach, OAGB or RYGB, yields superior weight loss outcomes.

Methods:
A retrospective analysis reviewed data (2015-2022) from a UK centre on patients who underwent OAGB and RYGB after LSG. The primary outcome was percentage total weight loss (%TWL) at 2 years. Secondary outcomes assessed post-operative complications.

Surgical Techniques:
* OAGB: The sleeve was divided at the incisura. Biliary limb length was 150-200cm.
* RYGB: A shorter gastric pouch was created with a 50-70cm biliary limb and a 100cm Roux limb.

Both procedures used a 30mm linear stapler for the gastro-jejunostomy.

Results:
A total of 101 patients received revisional surgery: 47 (46.5%) underwent OAGB, and 54 (53.5%) underwent RYGB. Notably, 23% (11 patients) in the OAGB group and 5% (3 patients) in the RYGB group were planned second-stage procedures. The pre-operative BMI was higher in the OAGB group (49.1 vs. 37.1).
Both groups achieved significant BMI reductions at 2 years (41.9 in OAGB, 30.6 in RYGB). This translates to a %TWL of 19% for OAGB and 18.8% for RYGB ($p = 0.27$), indicating no statistically significant difference. Post-operative complication rates were comparable between the groups.

Conclusion:
This study suggests no significant disparity in %TWL at 2 years between OAGB and RYGB following LSG. While both procedures appear feasible options, further long-term studies are warranted to evaluate their efficacy and impact on patients' quality of life.

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OAGB with hand-sewn anastomosis as a way to prevent marginal ulcers – results of a prospective study.

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One of the main ways to reduce the incidence of marginal ulceration and bile reflux after OAGB is the use of completely hand sewing tip of the anastomosis. However, the stapled anastomosis option looks technically simpler and faster, and it has proven its reliability. There are also concerns about the frequency of early complication rate of both types of anastomoses.

Purpose of the study:
To compare incidence of marginal ulcers and bile reflux as well as the risks of early complication rate when using the hand-sewn anastomosis (HA) and stapler (SA) type of gastrojejunostomy (GEA).

Materials and methods:
A total of 209 patients participated in the prospective study after OAGB. The main group included 105 patients with HA. The intervention was performed using the developed stapleless «iMGB» technique with the hand-sewn anastomosis. The control group included 104 patients with the classic stapler (SA) type of GEA.

Results:
The amount of non-resorbable suture material remaining in the body with HA (OAGB) in comparison with SA was reduced by 47% ($p<0.001$). Non-absorbable material was completely absent in the anastomosis area. Average operating time in the HA-group was 19.5 minutes longer, the median time was 95 (90-105) versus 75 (65-80) minutes in the SA group ($p<0.001$). There were no significant differences in the risks of infectious complications between the groups. The overall incidence of early surgical complications in the HA-group was more than 2 times lower (2.85% versus 6.73%). The frequency of marginal ulcers in the HA-group («iMGB» method) is 4.67% versus 9.4% in the SA-group. The incidence of biliary reflux in the HA-group was 1.51 times lower compared with the SA-group.

Conclusion:
One of the proven ways to reduce the early complication rate after OAGB and the incidence of marginal ulcers and biliary reflux is the creation of completely hand-sewn tipe of GEA. The presented technique «OAGB» while demonstrating some advantages in terms of safety profile, places higher demands on surgical experience and skills and slightly increases the duration of the operation. Further multicenter studies comparing the results of hand-sewn and stapler types of gastrojejunostomy for OAGB are needed.

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OAGBP, RYGBP, or SADI for failed sleeve

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Introduction:
Recurrent weight gain is a major dilemma after Bariatric surgery, sleeve Gastrectomy is mainly concerned in this complication. We are presenting 10 years experience of different revisional procedures to overcome the recurrent weight gain post sleeve Gastrectomy. 200 patients for each procedure were selected randomly and 20 patients had SADI.

BMI were ranging from 35 to 52.

Method:
All the procedures were performed as per the classical technique with longer BPL for the OAGBP and RYGBP AND short 2.5 meters for SADI.

Results :Weight loss was more significant in OAGBP and SADI Than RYGBP Over the years. Major complications were insignificant comparing all the procedures. Minor complications were mor in SADI and OAGBP than RYGBP. There was no mortality.

Conclusion:
Though complications were least with RYBGBP, the weight loss which is the main goal of the revision was significantly more with OAGBP and SADI.

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Ondansetron versus metoclopramide and hyoscine as prophylaxis for nausea and vomiting post sleeve gastrectomy: randomized controlled trial

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Background:
Since it began to be used intermittently in the 1950s, there has been an upward trend in bariatric surgery, with the use of this procedure increasing more than 20- fold since 2010. Among the adverse postoperative events, nausea and vomiting (PONV) following general anaesthesia and surgery were recorded as the most distressing and frequent, affecting on average somewhere between 30%-50% of patients, though the frequency of these events varies considerably.

Aim:
This study purports to determine which of the various drugs available were the most effective in controlling PONV in patients post sleeve gastrectomy.

Methodology:
A prospective, randomized controlled study with parallel groups was conducted with 45 patients, all of whom had undergone laparoscopic sleeve gastrectomy under general anaesthesia. The patients were enrolled on the study, then 15 patients were allocated at random to each of three groups. Each patient was then carefully monitored for specific vital signs including non-invasive blood pressure (NIBP), peripheral capillary oxygen saturation (Sp02), heart rate, temperature and end-tidal CO2 (ETCO2). Episodes of nausea and vomiting were monitored and documented by the follow-up nurses.

Results:
The study included 45 patients divided into three groups. The mean systolic blood pressure was 132.8±6.6 mmHg among the first group, 131.3±11.0 mmHg for the second group, and 131.5±12.3 mmHg for the third group. Pulse rate was significantly higher 2 among the first group. Regarding post-surgical complaints, abdominal pain was recorded among 13.3% of the first group, 20% of the second group, and 13.3% of the third group.

Conclusions and recommendations:
In conclusion, the study revealed no significant difference between the different drugs under study in terms of effects on the vital signs of the patients, except for heart rate. Nausea was the effect most frequently experienced for all drugs, while bloody vomiting was more frequent among patients on 10 mg of metoclopramide.

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One Anastomosis Gastric Bypass (OAGB) vs Roux en Y Gastric Bypass (RYGB) after failed Vertical band gastroplasty (VBG): a Prospective Cohort Study

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Background:
Vertical band gastroplasty (VBG) was a popular bariatric surgery decades ago, but has been abandoned due to its high failure rate and complications. Long-term outcomes following Vertical Banded Gastroplasty (VBG) indicate that over 50% of patients ultimately necessitate revisional surgery due to complications or recurrent weight gain. Vertical Banded Gastroplasty (VBG) could be converted one anastomosis gastric bypass or roux en y gastric bypass.

Methods:
Prospective cohort study was conducted to compare effectiveness of OAGB and RYGB as a remedy for suboptimal clinical response and recurrent weight gain after failed VBG procedures. Patients were followed from December 2021 to January 2024. One hundred and sixteen patients were enrolled. 66 patients for RYGB and 50 patients for OAGB were analyzed, with a 2-year follow-up at the bariatric surgery department at Ain Shams University Hospital.

Results:
Since December 2021, 116 patients were enrolled into the study. Patients were divided into OAGB group (n=66) and RYGB group (n=50). All the baseline characteristics were comparable between both groups as shown in table 1, mean age of the OAGB group was 38 ± 4 and in the RYGB group 30 ± 7, and BMI 44 ± 2, and 45 ± 2 kg/m^2, respectively. There was a significant difference between both groups in operative time, OAGB took shorter time (118.73 ± 4.52) compared to RYGB (142.52 ± 7.31), p value ≤ 0.001, and a significant difference in BMI between OAGB and RYGB at 1 year and 2 years, OAGB showed lower BMI, p values were 0.001, and ≤0.001 respectively.

Conclusion:
Both revisional RYGB and OAGB have comparable significant weight loss effects when performed for recurrent weight gain and suboptimal clinical response after VBG, with a more favorable outcome after OAGB. After a 2-year follow-up, both procedures were safe, with no significant differences in the occurrence of complications.

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One anastomosis gastric bypass—revisional versus primary bariatric procedure

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Background:
Revisional surgery is associated with higher morbidity. Weight loss following revisional surgery may not be at par with the weight loss achieved by the revised procedure performed as a primary bariatric option. A retrospective comparison and analysis were done of patients at the centre undergoing revisional surgery (One anastomosis gastric bypass-OAGB) with patients having the same procedure performed as the primary bariatric surgery for obesity.

Objectives:
To compare safety profile and weight loss following OAGB as a revisional versus as a primary bariatric procedure.

Methods:
Study period was from December 2019 to December 2022. Group A were patients undergoing revisional OAGB surgery. A comparable group of patients were then identified from the same surgical pool (Group B) and matched case to case with each patient in Group A, who underwent the OAGB as the primary bariatric procedure. The two groups were studied for operative time, complications early and late, hospital stay, weight loss over 1 year.

Results:
Twenty-nine patients were revisions to OAGB. There was no significant difference in the operative time, complications and hospital stay between the revisional and primary procedure. The decrease in BMI from 0–6 months and 0–1 year between Group A and Group B was 5.84 and 7.49 respectively ($p<0.001$). The data was evaluated using the student's T test.

Conclusion:
One anastomosis gastric bypass can be performed safely as a revisional bariatric procedure. However, weight loss following revisional OAGB is lower compared to the same procedure being performed primarily

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Online search trends related to bariatric surgery and its relationship with utilization in Australia.

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Introduction:
There is an abundance of information on the internet related to bariatric surgery. Patients may prefer a specific type of bariatric surgery based on what they read online. The primary aim of this study was to determine online search trends in bariatric surgery over time in Australia and worldwide. The secondary aim was to establish whether a relationship exists between public online search activity and the types of bariatric surgery performed in Australia.

Methodology:
The terms “adjustable gastric band”, “sleeve gastrectomy”, and “gastric bypass surgery” were submitted to Google Trends for search volume analysis in Australia and worldwide. This was compared alongside the numbers of gastric bandings, sleeve gastrectomies, and gastric bypass surgeries performed in Australia over time to determine if there was a relationship between the two.

Results:
Search trends for “adjustable gastric band” and “sleeve gastrectomy” in Australia were similar to trends seen worldwide. However, search trends for “gastric bypass surgery” differ between Australia and the rest of the world. It took at least a year for online searches to reflect the higher number of sleeve gastrectomies performed relative to gastric bandings. There was a lag time of over four years for online searches to reflect that the number of gastric bypass surgeries performed was higher than the number of gastric bandings

Conclusion:
Search interests in Australia and worldwide were similar for gastric banding and sleeve gastrectomy but different for gastric bypass surgery. There appears to be a lag time of years before online search volumes reflected real-life bariatric surgery activity in Australia.

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Oral anti-obesity medication after bariatric surgery: first results of a RCT on naltrexone/bupropion after bariatric surgery

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Background:
Thus far, weight recurrence after bariatric metabolic surgery (BMS) is not regularly treated with anti-obesity medication (AOM). In patients with obesity, usage of Naltrexone/Bupropion (NB) can result in positive weight loss, however information about patients undergoing BMS with weight recurrence treated with NB is still scarce.

Objective:
To study the effect of NB in combination with lifestyle intervention on weight loss after 22 weeks in patients with weight recurrence after BMS compared to lifestyle intervention only. Furthermore, side effects, eating behaviour and the absorption of (hydroxy)bupropion are evaluated by measuring steady-state trough levels in blood plasma.

Method:
In this multicenter randomized trial 160 patients were included, divided in three groups; 108 patients who were randomized 2:3 between lifestyle coaching + NB and lifestyle coaching alone. Additionally, all BMS patients receiving NB were compared with a group of control patients with obesity who use NB but have not undergone BMS. Patients who have >5% recurrence of weight and requested additional lifestyle coaching after BMS were included. Patients were excluded if they have contraindications for NB, take medication interfering with NB or if patients require revisional surgery. The lifestyle coaching consisted of 4 consultations with either a doctor, dietician, psychologist or physiotherapist. After 16 weeks, blood was drawn from the patients receiving NB to determine (hydroxy)bupropion levels and compare these with the control group.

Results:
Thus far, 34 patients have been included. During up titration of the medication symptoms such as headache, constipation and agitation were experienced. The first blood plasma analyses have been performed in 4 bariatric patients and 14 control patients. Figure 1 presents these results, with a visually clear difference between the two groups. No significant difference was seen yet, possibly due to the small sample size.

Conclusion:
To our knowledge this is the first multicenter study researching the effect of naltrexone/bupropion in patients who have undergone bariatric metabolic surgery. Included patients in the surgery group experience similar side effects as described in patients using NB without surgery. Blood plasma levels do show a difference, with a lower level in BMS patients.

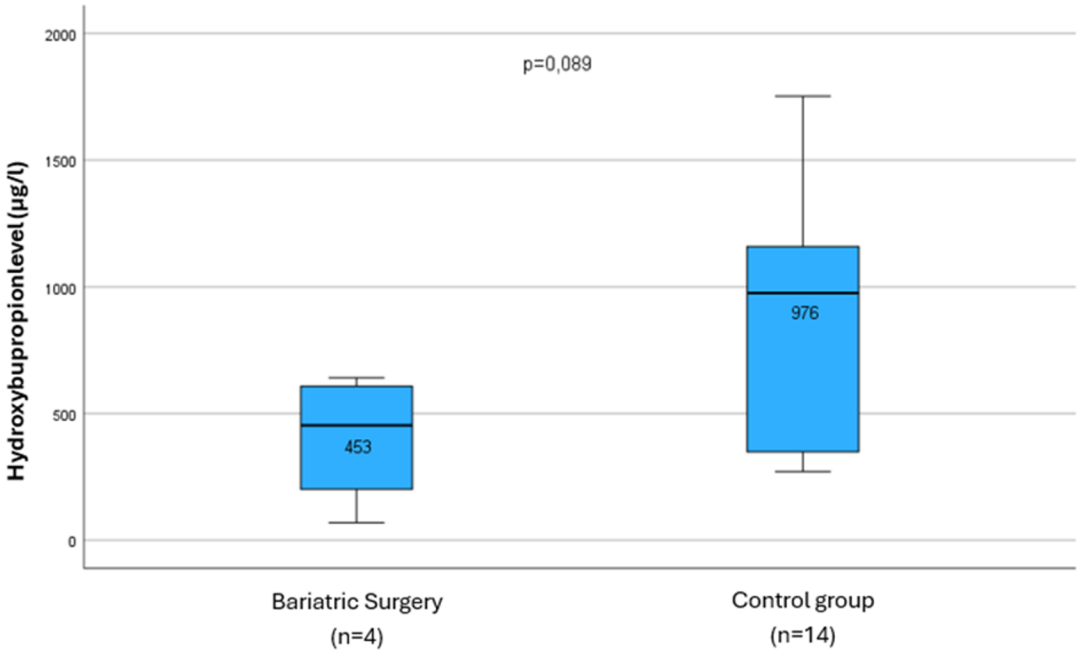
p=0,089
Hydroxybupropionlevel (µg/l)
2000
1500
1000
500
0
453
976
Bariatric Surgery
(n=4)
Control group
(n=14)

Figure 1

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Outcome of bariatric surgery in Chinese patients with liver cirrhosis

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Background:
Liver cirrhosis is a complex disease that may result in higher morbidity and mortality after bariatric surgery (BS).

Objectives:
The purpose of this study was to describe the outcome of BS in Chinese patients with unexpected cirrhosis, focusing on postoperative complications and the progression of liver disease.

Methods:
A total of 7145 bariatric patients who underwent bariatric surgery in three bariatric and metabolic surgery centers in China from 2016 to 2023 were evaluated to determine the prognosis of obesity and liver cirrhosis after BS.

Results:
A total of 41patients meeting the study criteria including 40 cases of Child-Pugh class A cirrhosis and 1 case of Child-Pugh B. Obesity and related comorbidities were treated with laparoscopic sleeve gastrectomy (LSG), Roux-en-Y gastric bypass (RYGB), single anastomosis sleeve ileal (SASI), single anastomosis sleeve ileal with braun (SASI-B) and one anastomosis gastric bypass (OAGB). Postoperative pathology confirmed nodular cirrhosis in 21 (51.22%) patients, pseudo-lobule formation 1 (4.1%), lipedema degeneration with inflammatory cell infiltration 3 (12.5%), and chronic hepatitis in 1 (4.1%) patient. The liver function test indexes showed improvement in 3 (12.5%) patients with hepatitis which tended to be within the normal range. The average %TWL was 29.73±6.53 at one year postoperatively. During the 30-days postoperative period, the complication rate was 0.04% (including: 1 case of portal vein thrombosis, 1 case of gastrointestinal bleeding, and 1 case of intra-abdominal infection). Moreover, no liver decompensation or mortality was reported during the follow-up. At one year after surgery the remission rates of comorbidities in 35 patients were: hyperlipidemia 100%, Type 2 diabetes 82.61%, hypertension 84.62%, and OSAS 85.71%.

Conclusion:
BS such as LSG, RYGB and OAGB can be performed safely in Chinese patients with unexpected cirrhosis in the compensated stage of liver disease (Child-Pugh class A), with low postoperative morbidity and no mortality at one year follow-up. More studies are needed to fully understand the benefits of BS in this high-risk group of patients.

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Outcome of metabolic and bariatric surgery on diabetes remission, weight loss and associated complications in tertiary care hospital of Peshawar

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Background:
The primary outcome of bariatric surgery is weight loss; however, it also improves obesity-related comorbidities and overall survival. Bariatric surgery has progressed significantly since its origin in 1954.In contemporary practice, Roux-en-Y gastric bypass surgery (RYGB), sleeve Gastrectomy (SG) and one anastomosis gastric bypass (AOGB) are the most performed procedures.

Objectives:
The objective of this study is to evaluate the outcomes and efficacy of LSG, RYGB and OAGB on weight loss, diabetes remission and the associated complications in a 1-year follow-up.

Methods:
This study was conducted in Department of General Surgery HMC Hospital Peshawar from January, 2021 till December, 2023. BMI of the patients ranged from 33 to 48. Post-operatively patients were followed up to 1-year.

Results:
A total of 100 patients underwent bariatric surgery. 58 (58%) patients with a BMI of 39±6.0 underwent LSG. 25 (25%) patients who had a BMI of 43±6 underwent RYGB, while 17 (17%) with a BMI of 41±7 was subject to OAGB. 38 (65.5%) of patients undergoing LSG, 19 (76%) of RYGB patients and 13 (76.4%) of OAGB patients were suffering from Type-2 Diabetes Mellitus (T2DM). Postoperatively, staple line hemorrhage was seen in 1 (5.8%) of OAGB patient only. Marginal ulcer was diagnosed in 1 (1.7%) LSG and 3 (17.6%) OAGB patients while none in RYGB patients. 2 (3.4%) of LSG and, 2 (11.7%) of OAGB patients complained of reflux while nutritional deficiency was observed in 1 (5.8%) of OAGB and, 1 (4%) RYGB patient. 2 (8%) of RYGB has surgical site infection which was managed conservatively. Excessive weight loss percentage (EWL %) was 31% in LSG, 40% in RYGB, 38% in OAGB in the 1-year follow up. 22 (57.8%) of LSG patients had remission of T2DM. While 16 (84.2%) OF RYGB and 7 (53.8%) of OAGB patients attained remission of T2DM at the end of follow up period. No weight gain was observed in any patient. No mortality was recorded at the end of the follow-up.

Conclusion:
Bariatric surgery is a durable and safe option for managing severe obesity. It confers significant and lasting weight loss. Most obesity-related comorbidities improve after bariatric

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Outcomes beyond 10 years of laparoscopic roux-en-y gastric bypass vs. Laparoscopic sleeve gastrectomy for obesity: weight loss, comorbidities, and reo

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Background:
Long-term results from the Swiss multicenter randomized controlled trial that compares laparoscopic Roux-en-Y gastric bypass (LRYGB) with laparoscopic sleeve gastrectomy (LSG) for patients with obesity. The five-year results showed almost similar weight loss.

Methods:
Initially, 217 patients with a body-mass index (BMI) > 35 kg/m2 were randomly assigned to receive LRYGB or LSG at four bariatric centers in Switzerland. Primary endpoint was percentage excess BMI loss (%EBMIL), while secondary endpoints were percentage total weight loss (%TWL), evolution of comorbidities, complications, and reoperations. The primary endpoint was analyzed both for intention to treat (ITT) and per protocol (PP).

Results:
[PR1] [MK2] : Of the 217 patients, 110 were randomized to LRYGB and 107 to LSG. 156 were women (71.9%), mean age was 42.5 ± 11.1 years and the mean baseline BMI 43.9 ± 5.3 kg/m2. 65.4% of patients had a completed follow-up of 10 years. In the ITT population mean %EBMIL was 65.2 ± 26.0% after LRYGB and 60.6 ± 25.9% after LSG (p = 0.29), %TWL was not different between LRYGB and LSG (27.5 ± 10.6% and 26.3 ± 13.6%, p = 0.56). Patients after LSG had significantly higher rates for conversion because of suboptimal clinical response or reflux compared to LRYGB (29.9% versus 5.5%, p < 0.01). LRYGB had significantly higher %EBMIL compared to LSG after 10 years in the PP population (65.9 ± 26.3.4% versus 56.1 ± 25.2%, p = 0.048). However, %TWL did not reach significance (LRYGB 27.7 ± 10.8%, LSG 25.5 ± 15.1%, p = 0.37). Higher remission rates for dyslipidemia were observed in the LRYGB group than after LSG (p = 0.02), while more LSG patients reported significantly more symptoms of gastroesophageal reflux disease compared to LRYGB (p = 0.002). Overall reoperation rate was 23.1% for LRYGB and 32.3% for LSG (p = 0.28).

Conclusions:
LRYGB leads to significantly higher %EBMIL in PP population compared to LSG beyond 10 years. Improvement of comorbidities is similar except for gastroesophageal reflux disease and dyslipidemia that seem to be better controlled by LRYGB. LSG patients experienced a significantly higher number of conversions to different anatomy compared to LRYGB. [PR1]Bist du

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Outcomes comparison between primary versus revisional duodenal switch in patients with BMI greater than 55 kg/m2

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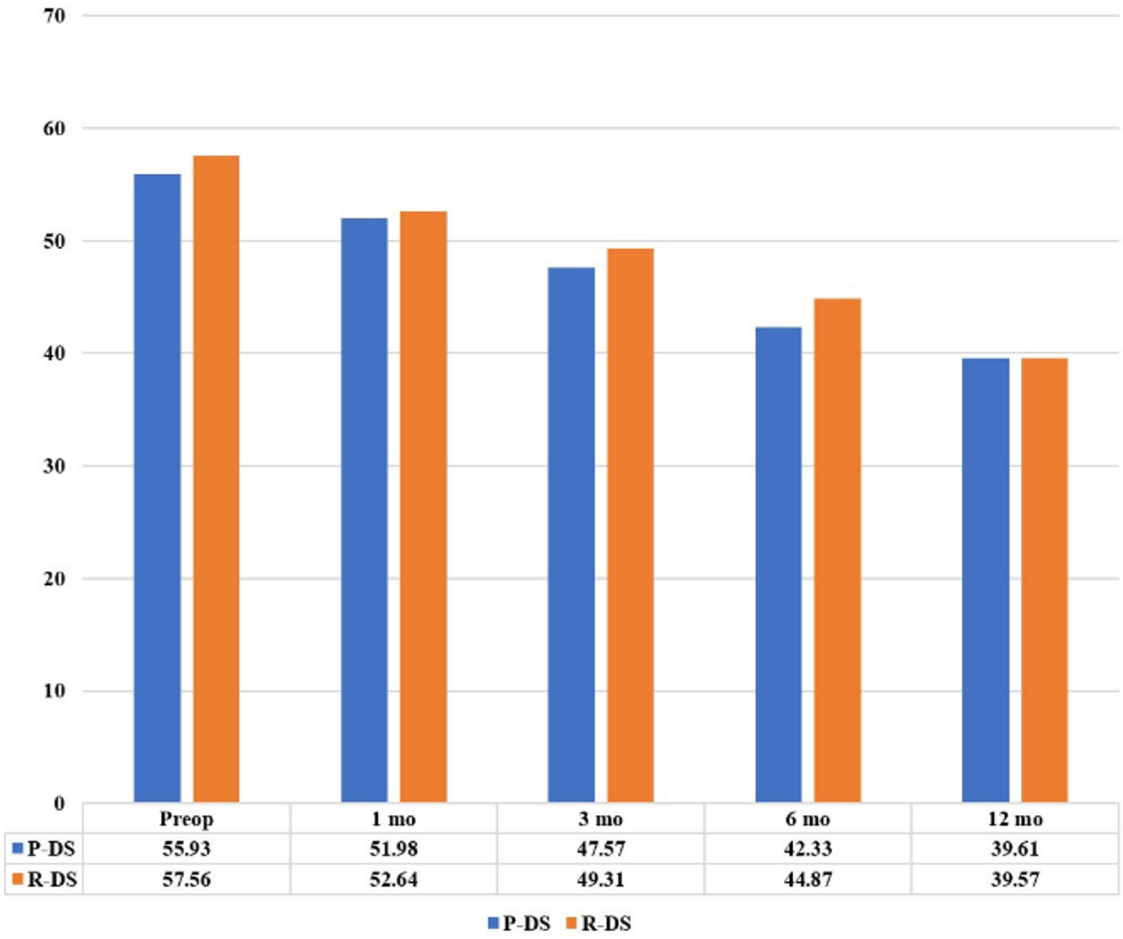
Mayo Clinic

Background:
Revisional bariatric surgery for the treatment of recurrent weight gain is increasing but is considered higher risk and less effective than primary bariatric surgery. The aim of this study was to compare clinical outcomes between primary and revisional duodenal switch (DS) in patients with a BMI greater than 55 kg/m2.

Methods:
This study was a nonrandomized, controlled, retrospective review of 20 patients who underwent either primary or revisional DS (BPDDS and SADI-s) at our institution from January 2015 to December 2023. Revisional DS was defined as patients who underwent conversion from SG to either BPDDS (C-BPDDS) or SADI (C-SADI-s). Perioperative and postoperative variables were examined.

Results:
11 patients (6 BPPDS; 5 SADI-s) and 9 patients (5 C-BPDDS; 4 C-SADI-s) underwent primary and revisional DS, respectively. Patients who underwent revisional DS showed a slightly higher preoperative BMI (57.56 + 5.92 kg/m2 vs 55.93 + 6.91 kg/m2) in comparison with primary DS. In addition, shorter operative times (153.20 + 53.26 min vs. 193.27 + 46.79 min) and a longer length of stay (2.70 + 1.25 days vs. 2.18 + 1.16 days) were found in the revisional group. Patients who underwent primary DS showed 3 minor late complications (1 dehydration, 2 nephrolithiasis), meanwhile, the revisional DS group showed 1 major late complication (reoperation due to internal hernia). Revisional DS had similar %TWL (30.31 + 10.79 vs 25.25 + 12.38) and %EWL (53.24 + 14.48 vs. 48.41 + 22.93) at 12-month of follow-up when compared to primary DS. Changes in BMI for both groups are displayed in Figure 1.



	Preop	1 mo	3 mo	6 mo	12 mo
P-DS	55.93	51.98	47.57	42.33	39.61
R-DS	57.56	52.64	49.31	44.87	39.57

Figure 1. Changes in BMI after primary and revisional DS

Conclusions:
Revisional DS was associated with shorter operation times and similar weight loss than primary DS. Additionally, it was accomplished safely and led to optimal and sustained weight loss in patients with BMI greater than 55 kg/m2.

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Pancreatic Exocrine Insufficiency – prevalence, screening and treatment in a private bariatric practice.

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Background:
Pancreatic Exocrine Insufficiency (PEI) is a potential complication following bariatric-metabolic surgery. Definitive diagnosis can be difficult as symptoms can resemble other gastrointestinal conditions, and diagnostic tests are not always practical in a clinical setting.

Objectives:
We sought to define the incidence of suspected PEI following Roux-en-Y Gastric Bypass (RYGB), One Anastomosis Gastric Bypass (OAGB) and Sleeve Gastrectomy (SG). Additionally, we examined the response rate to Pancreatic Enzyme Replacement Therapy (PERT), and whether there was a correlation between suspected PEI and biliopancreatic limb (BP) length in RYGB and OAGB.

Methods:
A retrospective analysis of 284 consecutive patients who had bariatric-metabolic surgery in 2021 was completed in a New Zealand private practice. The multi-disciplinary team followed a local protocol requesting Faecal Elastase (FE) and Faecal Steatocrit (FS) for patients with bowel symptoms suggestive of PEI before commencing a trial of Pancreatic Enzyme Replacement Therapy (PERT) with monitoring. Patients were followed up for two years from surgery.

Results:
20% (29/145) RYGB, 21.1% (8/38) OAGB, and 1% (1/101) SG patients developed bowel symptoms suggestive of PEI during follow-up. 71.1% (27/38) of patients with symptoms were commenced on PERT either following abnormal FE (<200µg/g) or FS (>20%) results (18/27) or for an empiric trial of PERT (9/27). 77.8% (21/27) of those trialed on PERT responded and reported improvement in symptoms.

16/22 of RYGB trialled on PERT responded, including 10/15 in with a short BP limb (60cm) and 6/7 with a long BP limb (100cm). Two patients with a short limb RYGB were lost to follow-up, two patients were non-adherent, and two patients developed symptoms that precluded PERT (constipation, nausea). PEI symptoms were only seen in OAGB with longer BP limb (160cm) and all (5/5) responded to a trial of PERT.

Conclusion:
Altered gastrointestinal symptoms suggestive of PEI are common in RYGB and OAGB patients, but not SG. PEI can occur regardless of BP limb length. Reliance on abnormal FE and FS results for screening may lead to underdiagnoses of PEI. As PERT is a low-risk intervention, an empiric trial should be offered to patients with symptoms, regardless of stool test results, and symptoms monitored.

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Patient and professional perceptions for long-term optimal clinical response: A framework for bariatric surgery patient care

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Background:
A multidisciplinary health team for perioperative care of the bariatric patient, sustained in a viable framework to support a long-term follow-up service, may decrease rates of complications, help the recognition of the complexity of this chronic disease, and provide a comprehensive bariatric surgery process analysis.

Objective:
This study aimed to analyze patients' and professionals' experiences with the perioperative care process and identify their perceptions of the bariatric surgery process to support the long-term management of obesity surgical treatment.

Methods:
This qualitative study was conducted in a bariatric surgery center in south Portugal. Seven health professionals participated in one focus group, and sixteen patients participated in one of the three focus groups. Patients' focus group script had eleven open main questions with follow-up questions to probe for more information, addressing motivations, experiences with the pre-surgery and post-surgery process, and perceptions of lifestyle changes.

Results:
Participants reported the need for a reference professional in the hospital to contact, the importance of psychological support to help patients deal with the "ups and downs" of post-surgery life, and the financial support for physical activity programs.

Conclusion:
This research helped identify a need for a framework for long-term follow-up and showed priorities to tailor health services for managing bariatric surgery patients. New bariatric surgery programs should incorporate a diverse health team, focusing on patient support in the long-term follow-up. This team should be led by a dedicated case manager and include physical activity specialists.

Keywords: bariatric surgery; patient-centered care; e-health; follow-up; case manager

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Patient perspective on weight bias and stigma in obesity management: impact and gender disparities

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Background:
Weight bias and obesity stigma permeate in healthcare. Even healthcare professionals (HCP) harbour biased attitudes towards people living with obesity (PLWo) and those attitudes can impact on their health outcomes–particularly in people undergoing bariatric surgery- or even discourage them from seeking care. Thus, appalling patient experience can exacerbate morbidity and mortality.

Objectives:
This study aimed to assess: 1) impact of different domains of stigma among PLWo; 2) obesity control potentially-associated factors; and 3) Impact of obesity on fertility, sexuality, guilt, and failure.

Methods:
From previously retrieved qualitative insights and customary domains of obesity Patient-Reported Experience Measurements, an ad hoc questionnaire was created to explore patient experience of PLWo. The questionnaire was distributed as an anonymous digital survey to 2505 PLWo from Hospital Clinic Barcelona obesity program (69% underwent bariatric surgery).

Results:
Response rate was 34.05%. Respondents were 67% women, 50% aged between 55 and 69 years, 45% had been enrolled at HCB's for over 5 years, and 72% acknowledged obesity as a chronic condition. Among women, 65.9% reported stigma across various domains (internal, social, and/or professional), compared to 45% of men. Social stigma was reported by 52% of women versus 31% of men, while 50% of women versus 28% of men reported internal stigma. Experiencing stigma from HCPs was reported by 26% of woman and 9% of men. Approximately 70% of women and 50% of men perceived obesity as significantly impacting feelings of guilt and failure. Over 70% of patients identified emotional factors, physical activity, and personal dietary habits to influence obesity control.

Conclusion:
Gender disparity in obesity stigma unveils another neglected area particularly relevant to women's health. Patients perceive obesity as a chronic condition and recognize the influence of emotional and physical well-being on its control. Targeted interventions aimed at mitigating weight bias in healthcare settings are urgent for obesity management.

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Patients with more diabetes require more staple firings per bariatric procedure. a multivariate regression analysis to identify factors influencing th the Number of Stapler Reloads Required for Metabolic Surgery.

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Background:
The introduction of surgical stapling has revolutionised laparoscopic metabolic bariatric surgery (MBS). Today, most MBS procedures use surgical stapling. However, factors influencing the number of stapler reloads per surgery have not been formally studied.

Objectives:
To identify factors that influence the number of stapler reloads required to complete a MBS procedure.

Methods:
A large comprehensive database of patients undergoing sleeve gastrectomy, OAGB, or Roux-en-Y gastric bypass (RYGB) as primary or revision procedure was patient matched to a subset performed between 2018 to 2023 at an Australian private hospital. A multivariate regression analysis was done to identify predictor variables for the number of reloads per procedure. A Poisson Regression and step wise model guided by the Akaike Criterion (AIC), was then employed to identify the most influential predictors. The final selected model included four predictor variables. Results are reported as the incidence rate ratio (IRR) with 95% confidence interval (CI).

Results:
A total of 777 patients who underwent sleeve gastrectomy (n=278, 35.8%), OAGB (n=471, 60.6%), or RYGB (n=28, 3.6%) were included. The median number of reloads was 6 (range 1-17) per procedure.

The selected model identified procedure type, revision surgery, type II diabetes (T2D), and patient sex as the most influential predictors. Compared to sleeve gastrectomies, the number of reloads was 12% higher in OAGBs (IRR 1.12; 95% CI 1.05, 1.20; p<0.001) and 22% higher in RYGB (IRR 1.22; 95% CI 1.04,1.44, p=0.016). Revisions increase the reloads required by 26% (IRR 1.26; 95% CI 1.13, 1.40; p<0.001) compared to primary procedures. T2D increased the number of required reloads by 8% (IRR 1.08; 95% CI 1.01, 1.17, p=0.033). Surgeries in women needed 6% fewer reloads than in men (IRR 0.94; 95% CI 0.87, 1.00), but this difference was not statistically significant (p=0.051).

Conclusion:
The type of procedure, revision surgery, and T2D can significantly increase the number of stapler reloads needed for MBS.

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Perioperative outcomes of robotic versus laparoscopic bariatric surgery in Australia: A Bariatric Surgery Registry (BSR) analysis.

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Background:
Adoption of robotic platform in bariatric surgery has increased worldwide with clinical outcomes proving comparable safety and feasibility to conventional laparoscopic approach. Adoption of robotic platform in Australasia lags with sparse clinical outcome reporting.

Objective:
The aim of this study is to evaluate and report the early outcomes of robotic bariatric surgery in Australia.

Methods:
A retrospective analysis of a prospectively maintained bi-national: Australia and Aotearoa New Zealand bariatric surgery registry from January 2014 to June 2022 was performed. Perioperative outcomes of the robotic cases were reported against the cohort of laparoscopic cases performed by the same group of robotic surgeons to adjust for skill set, institutional setup and case complexity.

Results:
Thirty-one robotic surgeons were identified and collectively performed 14,100 procedures (442 robotic, 3.1%; 13658 laparoscopic, 96.8%). Baseline BMI of robotic group (42.9 ± 8.7 kg/m2) and age (45.7 ± 12.4 years) was similar to laparoscopic group (43.1 ± 8.3 kg/m2) and (43.7 ± 11.7 years). Sleeve gastrectomy (robotic 235, 53.2%; laparoscopic 8325, 60.9%) and Roux-en-Y gastric bypass (robotic 172, 38.9%; laparoscopic 2740, 20.1%) encompasses the majority of the procedures performed. One mortality was noted in the laparoscopic group. Outcomes measured such as rate of complications, anastomotic leak, anastomotic stricture, haemorrhage, and wound infection were similar between the 2 groups. Bowel obstruction not requiring operative intervention was higher in the robotic group (2/442, 0.45% versus 8/13658, 0.06%; p-value 0.03).

Conclusion:
The volume of robotic bariatric surgeries performed in Australia remains low when compared against international benchmark. Early perioperative outcomes of robotic bariatric surgery were comparable to conventional laparoscopic approach. This is reflective of a safe implementation system and application of the robotic technology within the Australasian region.

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Pilot-Testing a Bariatric-Specific Patient-Reported Outcome Measure for the Australian and Aotearoa New Zealand Bariatric Surgery Registry

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Background*:*
The Australian and Aotearoa New Zealand Bariatric Surgery Registry (ANZ BSR) is currently working to develop a bariatric-specific Patient-Reported Outcome Measure (PROM). Previous work developed a questionnaire to assess the outcomes deemed most important by pre- and post-surgical patients and a range of healthcare practitioners.

Objectives:
This study aimed (1) to establish patient understanding, acceptability and importance of the questionnaire items, and (2) to pilot test the draft Registry PROM amongst a sample of post-surgical patients.

Methods:
Cognitive debriefing interviews were conducted with post-surgical patients via an online platform (Zoom). Participants were asked to discuss how they understood the questions, how they would answer, whether anything was confusing, and whether the answer options were appropriate. Following feedback, the questionnaire was adjusted and prepared for pilot testing.

A stratified sample of post-surgical patients from the ANZ BSR were invited to complete the pilot PROM via an online platform (Qualtrics). The Pilot PROM included 58 questions covering 9 domains; General Health, Eating Symptoms, Sleep, Perception of Surgery, Quality of Life, Social Well-Being, Mental Health & Emotional Well-Being, Eating Behaviour & Relationship to Food, and Self Esteem & Body Image.

Results:
Interviews were conducted with 6 participants. Key feedback included that the examples provided with questions were meaningful, relevant, and useful, the addition of a time frame would make it easier to reflect on symptoms/experiences, and standardising the number and order of answer options would be beneficial.

66 participants completed the pilot PROM. The domains 'Eating Symptoms', 'Mental Health & Emotional Well-Being', and 'Self-Esteem & Body Image' had the highest rates of poor outcomes (35.4%, 22.8%, and 20.2%, respectively), while the lowest rates were for 'Quality of Life' and 'Social Well-Being' (2.3% and 9.1%, respectively).

Conclusion:
Initial testing of the pilot PROM identified 'Eating Symptoms', 'Mental Health & Emotional Well-Being', and 'Self-Esteem & Body Image' to be the domains in which participants indicated the highest rates of poor outcomes. Additional psychometric testing will facilitate the identification of the items within the draft PROM that are the most indicative of patient outcomes, allowing for further refinement of the Registry PROM prior to implementation.

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Plan of recurrent weight gain after laparoscopic gastric plication (LGP)

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Introduction:
LGP is a restrictive bariatric operation with vertical inversion of greater curvature into stomach under control of a 36 sizer. The shape of stomach after plication is like sleeve gastrectomy exactly. Like other restrictive methods rate of recurrent weight gain after 10 years of LGP is about 40%. The aim of this study is to report the plan of reoperation in regained cases after LGP.

Method:
All of cases with recurrent weight gain (BMI>35) after LGP included in this study. Before reoperation all of cases put under preoperative standard complete checkup including endoscopy, sonography, lab tests and so on. Etiology of recurrent weight gain accessed in these cases including new pregnancy, change of behaviour, depression, trauma and rate of cooperation of patients. Cases with acceptable transient factors for recurrent weight gain, included on replication or sleeve. Both of them perform under control of 36 sizer, but replication never needs undo the previous plication. But in sleeve, it is needed to undo all of previous plication sutures to make sure about the appropriate location of staplers. Undo of plicated sutures should be performed by meticulous way. If the plan of dissection gets exposed, undo of all of sutures can do easily. In cases with permanent etiology of regain like trauma and lack of exercise potential, mixed operation (mainly OAGB and rarely in high grade reflux cases R-Y GBP) advise. Dissection of sutures is essential in these cases as well, but it is not needed to dissect distal parts of stomach. If after production of pouch the remaining of fondues get ischemic, it should be removed to prevent any leakage from gastric remnant.

Result:
2710 cases during 24 years (2000 up to 2024) did LGP by one surgeon. 342 regained cases got under reoperation (F209/M133) (mean BMI 42) including replication (54), sleeve (27), R-Y GBP (11), SAGI (35: in 10 cases SASI and in 25 cases SAPI) and OAGB (215). Replication had not any problem: after adhesiolysis at greater curvature, under guide of number 36 sizer, replication including antireflux suture performed. The mean BMI before operation was 38 and one year after operation it was 28.

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Plant-Based Caloric Restriction Diets (PB-CRD) on weight loss in obesity

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Background:
The efficacy of plant-based diets combined with calorie restriction for weight loss is uncertain.

Objectives and Methods:
This is a 12-week, single-center, open-label, non-inferiority, parallel randomized controlled trial conducted at the Department of Endocrinology and Metabolism, Shanghai Tenth People's Hospital Tongji University, between October 2022 and December 2023. Participants aged 18 to 45 years with obesity(body mass index BMI≥ 28 kg/m^2) were randomly assigned to either the Plant-Based Caloric Restriction Diets(PB-CRD) group, instructed to eat 3 structured plant-based meals per day, five days a week, or the Calorie-Restricted Diet(CRD) alone group. All participants were advised to adhere to a calorie-restricted diet of 1600 kcal per day for men and 1300 kcal per day for women. The primary outcome was weight loss. Secondary outcomes included changes in body composition and plasma levels of inflammatory and metabolic factors.

Results:
80 participants enrolled (BMI 32.03±3.46kg/m^2; age 34.78±7.12years; 31(38.8%) male) and 52 (65.0%) participants completed the 12-week intervention. The mean weight loss was -6.56kg (95% confidence interval [CI], -7.81 to -5.30; P<0.001) in the PB-CRD group and -5.11 kg (95% CI, -6.51to −3.71; P<0.001) in the CRD group. Changes in weight were not significantly different in the two groups (difference, -1.44 kg; 95% CI, -3.27 to 0.39; P=0.119). Results of analyses of waist circumferences, BMI, body fat mass, visceral fat area, fat mass/height^2, and fat trunk/fat legs were consistent with the results of the primary outcome. There was also a significant decrease in total body fat, glucose level, insulin level, cholesterol, uric acid, tumor necrosis factor, and interleukin-8 in the PB-CRD group, but no significant change in the CRD group or between groups. In addition, there were no significant changes in any of the other secondary outcomes within or between groups.

Conclusion:
Patients undergoing PB-CRD achieved superior weight loss, and with a trend towards reduced fat content, enhanced metabolic function, and also decreased inflammation in the body.
China Clinical Trial Registration Center (ChiCTR2400081330)

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Post-operative management of fistulas after bariatric surgery sleeve or bypass, five-year feedback.

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The onset of fistula after sleeve and gastric bypass remains a fear and potentially serious complications. The experience and training of surgeons in endoscopy have allowed for the optimization of the management of this complication.

The aim of this study is to report our experience in managing fistula after sleeve and bypass.

Between 2018 and 2023, 24 patients were managed for fistulas after bariatric surgery including 8 patients transferred from another center. During the same period, 2832 patients underwent bariatric surgery, including 2242 sleeve gastrectomies and 587 gastric bypass surgeries. The study examined the demographic characteristics of the patient, the time of fistula occurence, the time to management, the treatment modalities for the fistula, the duration of hospitalization, and the healing time.

The average age of the patients was 41 years (22-71), with a sex ratio of 21women to 3 men and average BMI 43 (35-50). There were 3 patients who had undergone bypass surgery and 21 sleeve gastrectomy. The average time between the surgery and the appearance of the fistula was 9 days (1-45). In our center, the fistula rate was 0.5% with no fistula after bypass surgery, and with a variation in the complication rate depending on the operator's experience from 0.09 to 2.8%.

Regarding the management of the complication, laparoscopic drainage was performed in 21/24 cases. In 3 cases, the early placement of an endoscopic pigtail drain avoided the need for laparoscopy. Endoscopic drainage was carried out in 21 out of 24 cases, with laparoscopic drainage and fistula suture in 3 cases, which achieved healing. In 14 out of 21 cases the endoscopic drainage was performed by bariatric surgeons. The endoscopic drainage was carried out with an average time from diagnosis to pigtail placement of 4 days (0-12). The average consolidation time was 1.7 months. The average hospital stay was 22.3 days.

Early management of a fistula by an experienced surgical team trained in endoscopy allows for optimal treatment with, in the most favorable cases, a lower number of interventional procedures, a shorter hospital stay, and a quicker healing time.

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Post-operative outcomes following emergent revisional bariatric surgery – a propensity score matched MBSAQIP analysis

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Background:
Revisional bariatric surgery (RBS) is technically difficult and is associated with higher risk of postoperative complications compared to primary bariatric procedures. While RBS is commonly performed electively due to recurrent weight gain or suboptimal weight loss, it may also be undertaken emergently in cases of mechanical malfunction or perforations. Limited data exists regarding outcomes following RBS performed in an emergency setting.

Objective:
To compare 30-day post-operative outcomes between patients undergoing elective and emergent RBS.

Methods:
Patients who underwent RBS were identified from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) databases for the years 2020 and 2021. Demographic, operative, and 30-day post-operative outcomes data were compared between emergent and elective RBS groups. Propensity score matching, based on preoperative characteristics, was conducted to adjust for potential confounding factors.

Results:
A total of 43,993 patients underwent revisional bariatric surgery (RBS), with 43,544 (99.0%) elective and 449 (1.0%) emergent cases. There was no significant difference in operative duration between the two groups. Emergent status was associated with higher likelihood of an open approach (10.0% vs 2.9%, $p<0.001$) and conversion of surgical approach (5.6% vs 0.7%, $p<0.001$). A greater proportion of patients in the emergent group developed organ-space surgical site infections (SSI) (3.3% vs 1.1%, $p=0.039$) and required transfusions within 72 hours of surgery (5.1% vs 1.3%, $p=0.002$). Emergent surgery was also associated with longer length of stay (3.8 vs 1.8 days, $p<0.001$) and non-home discharge (3.4% vs 0.7%, $p=0.004$). However, there were no significant differences between groups in terms of non-operative interventions, reoperation, readmission, or mortality rates.

Conclusions:
Emergent RBS was associated with higher rates of organ or space SSI and post-operative transfusion requirements, longer length of hospital stay, and non-home discharges. However, there were no significant differences in rates of other serious complications, reoperation or reintervention, readmission, or mortality between the emergent and elective groups.

Table 1. Comparison of pre-operative patient characteristics before and after matching

	Full Cohort (before matching)			Match Cohort (after matching)		
	Elective (n=43544)	Emergent (n=449)	p-value	Elective (n=448)	Emergent (n=448)	p-value
Age, years	48 (±11)	48 (±12)	0.826	48.2 (± 11.1)	48.4 (± 11.8)	0.813
Sex (female)	38123 (87.6%)	377 (84.0%)	**0.024**	372 (83.0%)	376 (83.9%)	0.787
Race			**0.002**			0.571
White	28695 (65.9%)	302 (67.3%)		308 (68.8%)	301 (67.2%)	
Black	9871 (22.7%)	77 (17.1%)		81 (18.1%)	77 (17.2%)	
Other	5215 (11.5%)	70 (15.6%)		59 (13.2%)	70 (15.6%)	
Hispanic Ethnicity	4978 (11.4%)	70 (15.6%)	**0.002**	55 (12.3%)	55 (12.3%)	0.564
Body Mass Index	41.2 (±8.4)	34.7(±9.2)	**<0.001**	35.1 (± 9.0)	34.7 (± 9.2)	0.464
Functional Status			0.154			0.571
Independent	43258 (99.3%)	445 (99.1%)		446 (99.6%)	444 (99.1%)	
Partially dependent	223 (0.5%)	2 (0.4%)		2 (0.4%)	2 (0.4%)	
Totally dependent	14 (0.0%)	1 (0.2%)		0 (0.0%)	1 (0.2%)	
Current Smoker	2324 (5.3%)	58 (12.9%)	**<0.001**	73 (16.3%)	58 (12.9%)	0.185
Diabetes			0.150			0.763
Insulin	1665 (3.8%)	13 (2.9%)		16 (3.6%)	13 (2.9%)	
Non-Insulin	4593 (10.5%)	37 (8.2%)		33 (7.4%)	37 (8.3%)	
COPD	488 (1.1%)	7 (1.6%)	0.362	5 (1.1%)	7 (1.6%)	0.773
PE	829 (1.9%)	11 (2.4%)	0.383	9 (2.0%)	11 (2.5%)	0.822
DVT	1015 (2.3%)	8 (1.8%)	0.53	14 (3.1%)	8 (1.8%)	0.28
Sleep Apnea	11317 (26.0%)	70 (15.6%)	**<0.001**	80 (17.9%)	70 (15.6%)	0.421
GERD	23323 (53.6%)	186 (41.4%)	**<0.001**	188 (42.0%)	186 (41.5%)	0.946
MI	453 (1.0%)	9 (2.0%)	0.058	7 (1.6%)	9 (2.0%)	0.802
PrPCI	640 (1.5%)	8 (1.8%)	0.551	7 (1.6%)	8 (1.8%)	>0.999
Cardiac Surgery	397 (0.9%)	5 (1.1%)	0.612	4 (0.9%)	5 (1.1%)	>0.999
HTN	17376 (39.9%)	161 (35.9%)	0.091	133 (29.7%)	161 (35.9%)	0.055
HLD	8545 (19.6%)	70 (15.6%)	**0.033**	60 (13.4%)	70 (15.6%)	0.393
Renal Insufficiency	182 (0.4%)	6 (1.3%)	**0.013**	6 (1.3%)	6 (1.3%)	>0.999
ASA Class			**<0.001**			0.703
I	110 (0.3%)	6 (1.3%)		10 (2.2%)	6 (1.3%)	
II	10428 (23.9%)	127 (28.3%)		113 (25.2%)	127 (28.3%)	
III	31694 (72.8%)	282 (62.8%)		285 (63.6%)	281 (62.7%)	
IV	1227 (2.8%)	27 (6.0%)		34 (7.6%)	27 (6.0%)	
V	2 (0.0%)	2 (0.4%)		1 (0.2%)	2 (0.4%)	
None assigned	83 (0.2%)	5 (1.1%)		5 (1.1%)	5 (1.1%)	

Continuous data expressed as mean ± standard deviation; categorical data represented as n (%)
Bolded values indicate significant differences defined as p<0.005
DM=Diabetes Mellitus; Insulin=Insulin-dependent DM; Non-Insulin= Non-insulin-dependent DM; COPD=Chronic Obstructive Pulmonary Disease; PE=History of pulmonary embolism; DVT=History of deep vein thrombosis; GERD=Gastroesophageal Reflux Disease; MI=History of myocardial infarction; PCI=Prior percutaneous coronary intervention; HTN=Hypertension requirieng medication; HLD=Hyperlipidemia; ASA=American Society of Anesthesiologists

Table 2. Intra-operative characteristics and post-operative outcomes			
	Elective (n=448)	Emergent (n=448)	p-value
Operative Time, minutes	132 (± 71)	129 (± 78)	0.557
Length of Stay, days	1.8 (± 2.0)	3.8 (± 5.1)	**<0.001**
Surgical Approach			**<0.001**
Laparoscopic	435 (97.1%)	403 (90.0%)	
Open	13 (2.9%)	45 (10.0%)	
Conversion of approach	3 (0.7%)	25 (5.6%)	**<0.001**
Any intra-operative or post-operative occurrence	29 (6.4%)	54 (12.1%)	**0.005**
SSI	2 (0.4%)	5 (1.1%)	0.451
Deep Incisional SSI	1 (0.2%)	1 (0.2%)	>0.999
Organ-Space SSI	5 (1.1%)	15 (3.3%)	**0.039**
Anastomotic or Staple Line Leak	3 (0.7%)	3 (0.7%)	>0.999
Wound disruption	1 (0.2%)	0 (0.0%)	>0.999
Pneumonia	0 (0.0%)	4 (0.9%)	0.124
Unplanned Intubation	1 (0.2%)	1 (0.2%)	>0.999
PE	2 (0.4%)	0 (0.0%)	0.499
VTE	0 (0.0%)	1 (0.2%)	>0.999
Vent >48 hrs	0.0% (0)	1 (0.2%)	>0.999
UTI	0 (0.0%)	2 (0.4%)	0.499
CPR	1 (0.2%)	0 (0.0%)	>0.999
Transfusion (72 h)	6 (1.3%)	23 (5.1%)	**0.002**
Sepsis	3 (0.7%)	8 (1.8%)	0.224
ICU	5 (1.1%)	11 (2.5%)	0.206
GI tract bleeding	4 (0.9%)	5 (1.1%)	>0.999
Bowel Obstruction	4 (0.9%)	2 (0.4%)	0.686
Non-home discharge	3 (0.7%)	14 (3.4%)	**0.004**
Non-operative interventions	12 (2.7%)	18 (4.0%)	0.353
Reoperation	12 (2.7%)	21 (4.7%)	0.155
Readmission	42 (9.4%)	33 (7.4%)	0.335
Emergency Department Visit	54 (12.1%)	39 (8.7%)	0.125
Mortality	1 (0.2%)	2 (0.4%)	>0.999

Continuous data expressed as mean ± standard deviation; categorical data represented as n (%)
Bolded values indicate significant differences defined as p<0.005
SSI= Surgical Site Infection; PE=Pulmonary Embolism; VTE=Venous thromboembolism; Vent > 48 hrs=Ventilator Requirement Greater than 48 hours; UTI= Urinary Tract Infection; CPR=Cardiac arrest requiring cardiopulmonary resuscitation; Transfusion (72 h)=Transfusion requirement within 72 hours of surgery start time; ICU=Unplanned intensive care unit admission

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Post-operative safety outcomes and 5-year healthcare utilisation after bariatric surgery and other elective general surgery procedures

Francesco Rubino

Background:
Bariatric/metabolic surgery (BMS) remains underutilised compared to other types of surgical treatments. Concerns about complications and related post-operative healthcare utilisation (HU) and costs undermine uptake of BMS. We investigated the safety and HU of BMS in comparison with other elective surgical treatments for benign conditions.

Methods:
The study included a total of 800 consecutive patients who underwent bariatric surgery (n=100) and seven other types of surgery (n=100 for each) for non-acute, non-cancer indications at a tertiary hospital in England. Procedures included adrenalectomy, gastro-esophageal junction surgery (GEJ), in-patient cholecystectomy (IC), outpatient cholecystectomy (OC), colorectal surgery (CR), hernia surgery (HS) and neck endocrine surgery (NES). Data was obtained through a nationwide administrative database (NHS Digital) using patients' unique health system numbers and review of patients' records. Outcome measures included 30-day safety measures and 5-year HU as assessed by hospital readmissions, emergency room attendance (A&E), outpatient visits and related costs.

Findings:
BMS patients had significantly higher number of co-morbidities and ASA score preoperatively, indicating higher baseline surgical risk. BMS was associated with significantly lower odds of 30-day major complications (Clavien–Dindo grade≥IIIa) compared to CR (6%;p=0.013) and GEJ (8%;p=0.004), wheres no differences were observed with other groups. The total number of procedure-related readmissions (PRA) over 5-year and the proportion of patients requiring PRA after BMS were similar to HS, NES or IC and lower than CR, AS, and GEJ. The average per-patient 5-year cost of HU from PRA after BMS was £790+337, lower than for CR (£8,270+3218,p<0.001), AS (£3242+772,p<0.001) and GEJ (£1705+976,p=0.013) and similar to the other procedures. There was a higher number of outpatient visits after BMS, but no differences in A&E attendance.

Interpretation:
Bariatric/metabolic surgery is associated with low risk of post-operative complications and 5-year healthcare use compared to other elective general surgery procedures.

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Pre and post-semaglutide era: a comparative study of bariatric surgery outcomes

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Mohak Bariatrics and Robotics

Background:
Obesity is commonly linked with various health issues like obstructive sleep apnea (OSA), type 2 diabetes mellitus (T2DM), hypertension (HTN), and musculoskeletal problems. While bariatric surgery is an effective treatment, the recent emergence of semaglutide, a glucagon-like peptide 1 receptor agonist, has raised curiosity about its potential influence on surgical results.

Objective:
This study aims to compare the outcomes of bariatric surgery between patients who underwent a preoperative program involving semaglutide and those who did not.

Methodology:
A total of 115 patients were included, 57 receiving semaglutide alongside a very low-calorie diet (VLCD) program for 15 days at 7mg and an additional 15 days at 14mg before surgery. The remaining 58 patients followed a VLCD without semaglutide. Patient characteristics, surgical details, postoperative complications, and weight changes were carefully evaluated. Follow-up assessments were conducted at 1, 3, and 6 months postoperatively.

Results:
Patients in the semaglutide group had a higher average preoperative weight (192kg vs 177kg) and a higher prevalence of OSA (83% vs 78%) but lower rates of T2DM (10% vs. 20%) and HTN (48% vs 35%) compared to the non-semaglutide group. Semaglutide-treated patients experienced a weight reduction of 17 kg within one month before surgery (from 192kg to 175kg) and demonstrated shorter operative durations. They also achieved early mobility and higher excess weight loss compared to the non-semaglutide group after Bariatric Surgery. The Semaglutide Group was better adjusted to the change in Diet pattern than the non-semaglutide group.

Although semaglutide patients experienced slight gastrointestinal side effects such as nausea, vomiting, and constipation before the procedure, after Bariatric Surgery, they experienced fewer symptoms.

Conclusion:
Incorporating semaglutide into the preoperative regimen for bariatric surgery demonstrates significant weight loss and postoperative recovery benefits. Despite encountering minor gastrointestinal issues, the advantages of reduced hospital stays and more significant weight reduction suggest that this approach could be a promising option for individuals with severe obesity. Additional research and long-term monitoring are necessary to fully understand the enduring impact of semaglutide on bariatric surgery outcomes.

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Predicting pregnancy at the first year following metabolic-bariatric surgery: development and validation of machine learning models

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Background:
Metabolic-bariatric surgery (MBS) is the last effective way to induce significant weight loss, more than 75% of patients are women, and more than 50% of these are at reproductive age. A minimal interval of 12 months between MBS and pregnancy is recommended until the weight loss stabilizes and correction of possible nutritional deficiencies. Predicting pregnancy less than 12 months after MBS is important for evaluating reproductive health services in bariatric centers.

Objectives:
To present a pregnancy prediction model at the first year following MBS using machine learning techniques.

Methods:
In a nested case-control study of 473 women with a history of pregnancy after MBS between January 2009 and December 2023, predisposing factors in pregnancy less than 12 months after MBS were identified and subsequently, several machine learning models, including the Artificial Neural Network, Random Decision Forest, Support Vector Machine, and Decision Tree, were applied to predict pregnancy less than 12 months after MBS.

Results:
Eight factors were considered important in pregnancy prediction less than 12 months after MBS, including age; gravidity; parity; a history of type 2 diabetes, polycystic ovarian syndrome (PCOS), infertility, and abnormal fetal development; as well as fertility treatments. The highest area under the curve (AUC) was 0.84 for the Decision Tree model with sensitivity and specificity of 0.77 and 0.81, respectively.

Conclusion:
Using the developed machine learning models, which predict pregnancy less than 12 months after MBS, can help bariatric surgeons and obstetricians to prevent adverse weight loss and pregnancy outcomes.

Keywords: Machine learning; Metabolic-Bariatric Surgery; Pregnancy; Prediction

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Pre-operative behavioral characteristics of patients are not predictive of weight recurrence following sleeve gastrectomy

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Introduction:
Bariatric surgery is the most effective and durable treatment for severe obesity with sleeve gastrectomy (SG) being the most frequently performed procedure. However, recent studies report suboptimal long-term outcomes after SG with up to 64% experiencing weight recurrence (WR) at 5 years. It is unknown whether WR is impacted by preoperative behavioral and psychosocial factors. This study evaluated baseline quality of life and weight change after SG.

Methods:
A prospective clinical study with longitudinal data from adults who underwent SG at a single institution between 2019 and 2021 was collected and analyzed. Demographics, anthropometrics, and clinical information were captured, including Patient Reported Outcomes Measurement Information System (PROMIS), Short Form Health Survey (SF-36), Three-Factor Eating Questionnaire (TFEQ), Alcohol Use Disorders Identification Test (AUDIT), and Pittsburgh Sleep Quality Index (PSQI). Weight change and repeated measures were collected from 6 months before surgery up to 24 months after surgery. Parametric and non-parametric tests were utilized as indicated.

Results:
33 participants were recruited (40.5 ± 12.2 years, 70% female, 55% White, BMI 47.7 kg/m^2). Individuals had significant improvement in waist circumference (F: 125.7 ± 12.7cm vs. 108.4 ± 18.6cm, p=0.02, M: 148.7 ± 20.9cm vs. 117.8 ± 13.0cm, p=0.006). The majority (64%) reached their nadir weight at 6-12 months after surgery. At most recent visit, the average total weight loss (TWL) was 32.5 ± 18.4kg. This resulted in 23.5 ± 9.3% TWL, 52.2 ± 21.1% excess weight loss (%EWL), and 0.78 ± 0.87% improvement in HbA1c. However, 43.3% of individuals had suboptimal response to SG, of which 26.7% did not achieve >20% TWL and 30% experienced WR (>10% from nadir). Preoperative BMI did not influence %TWL, %EWL, %WR, or HbA1c. There were no identifiable preoperative behavioral or psychosocial characteristics that predicted postoperative weight change.

Conclusions:
In a prospective cohort, a significant proportion of participants had a suboptimal response to SG, which could not be linked to any baseline behavioral or psychosocial factors. Future studies should include a larger patient population with longer follow-up to assess potential mechanisms underlying rate of weight loss and recurrence.

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Preoperative clinical profiling in surgical candidates with obesity to fundoplication

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Background:
Preoperative clinical profiling is pivotal for assessing patients' health status before surgeries. Evaluating clinical markers such as upper gastrointestinal endoscopy, High Resolution Manometry (HRM), and fluoroscopy aids in understanding oesophageal motility disorders, anatomical abnormalities, and optimizing treatment plans.

Objectives:
This study analyzed preoperative profiles of 36 surgical candidates with obesity. Objectives included assessing upper gastrointestinal endoscopy findings (hiatal hernia, erosive esophagitis, etc.), biopsy results, and manometry variables (motility disorders, pressures, etc.). Fluoroscopy findings such as hiatal hernia size and reflux presence were also evaluated.

Methods:
Descriptive analysis using frequencies, medians, and ranges assessed variables in the patient cohort. Clinical data from routine evaluations were collected, and standard statistical methods were used for analysis.

Results:
Hiatal hernia was universally observed, with varying sizes. Erosive esophagitis was prevalent (80.6%) with diverse severity levels (LA A-D). Erythema and reflux were evident in 55.6% and 30.6%, respectively. Barrett's esophagus was present in 25% of patients. Fluoroscopy revealed hiatal hernia (86.1%), reflux (80.6%), and gastric volvulus (2.8%). Pathological manometry findings showed motility disorders in 25% of cases, with the majority having an incompetent lower esophageal sphincter (52.8%).

Conclusion:
Preoperative profiling using upper GI endoscopy, fluoroscopy, and HRM guides surgical planning and postoperative outcomes prediction. Standardized evaluations are crucial for optimal patient care and surgical optimal clinical response, warranting further research for enhanced assessment strategies.

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Pre-operative endoscopic screening and Barrett oesophagus for sleeve gastrectomy

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Introduction:
Gastro-oesophageal reflux has been closely linked with sleeve gastrectomy (SG). Accelerated progression to Barrett oesophagus and, ultimately, adenocarcinoma is worrying. Current international guidelines recommended routine pre- and post-operative endoscopy for sleeve gastrectomy. However, the effect of SG on Barretts and the benefit of routine pre-operative endoscopy remains unclear.

Objectives:
To determine whether pre-operative endoscopy results in material changes to the surgical plan or difference in post-operative endoscopic outcomes. To determine the prevalence of de novo Barretts and the outcome of pre-operative Barretts after 2 years post-SG.

Methods:
Part 1 - Endoscopic outcomes 2 years post-SG were compared between those who had pre-operative endoscopy (Pre-op, N=225) and those who did not (NoPre-op, N=872).

Part 2 -Matched pre-operative and post-operative endoscopy findings of consecutive sleeve gastrectomy patients (N=225).

Results:
Part 1 **–** Pre-op group's Barretts rate was 4% (N=10), oesophagitis 22.2%. Patients from both groups underwent laparoscopic SG. There was no difference between Pre-op and NoPre-op groups in the prevalence of Barrett oesophagus (4.1vs.3.7%, p=0.788), oesophagitis (p=0.474), severity of oesophagitis (p=0.466), or hiatus hernia (p=0.619).

Part 2 **–** The rates of Barretts pre-operative and post-operative are the same (4%). Of the patients with pre-operative Barretts, 4 regressed, 3 improved and 3 remained unchanged post-operative. De novo short segment Barretts occurred in 1.7%. Hiatus hernia was more prevalent post-operative (7.6% vs. 43.1%, p<0.001). Similarly, effacement of the cardia (0.8% vs. 33.8%, p<0.001) and bile stasis (10.2% vs. 38.2%, p<0.001) increased. The prevalence and severity of oesophagitis were similar (p=0.191, p=0.106).

Conclusion:
No material changes to the surgical plan occurred due to the pre-operative endoscopy findings. Post-operative endoscopic outcomes were favourable regardless of having pre-operative endoscopy. The rates of Barrett oesophagus remained low at 2+ years post-operative with variable outcomes at 2 years. This does not support the notion of sleeve gastrectomy causing an accelerated progression to Barretts. Therefore, selective pre-operative endoscopy screening for those symptomatic or high-risk for Barrett oesophagus maybe more helpful with longer-term post-operative endoscopic follow-up.

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Preoperative endoscopy in bariatric surgery candidates: prevalence of upper gastrointestinal pathology and risk factors for reflux esophagitis

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Background:
Obesity is a known risk factor for upper gastrointestinal (GI) disorders. However, the routine use of preoperative esophagogastroduodenoscopy (EGD) in bariatric surgery candidates remains debated. This study aimed to investigate the prevalence of pathological findings on EGD and identify associated risk factors.

Objectives:
To characterize the prevalence of upper GI pathology in patients undergoing bariatric surgery and assess risk factors for specific diagnoses.

Methods:
A retrospective analysis was conducted on pre-operative gastroscopy reports of patients who underwent bariatric surgery at our institution between October 2019 and October 2020 (n=405).

Results:
Chronic superficial gastritis (80.5%, n=326) and reflux esophagitis (20.2%, n=82) were the most common endoscopic findings. Patients with reflux esophagitis were older, more likely male, had higher BMI, and displayed higher rates of smoking and alcohol consumption compared to those without. In men, severe obesity, smoking, and H. pylori infection were significant risk factors for reflux esophagitis. Age was the sole significant risk factor in women. Surgical procedures (sleeve gastrectomy vs. Roux-en-Y gastric bypass vs. one anastomosis gastric bypass) did not differ significantly. However, patients with diabetes underwent different procedures compared to patients without diabetes.

Conclusion:
Preoperative EGD revealed a spectrum of upper GI pathologies in patients with obesity. These findings support the potential benefits of routine EGD to guide tailored treatment plans and potentially improve patient outcomes in bariatric surgery.

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Preoperative leptin fat mass ratio is not a predictive factor of weight loss after bariatric surgery

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Background:
Leptino-resistance (LR) in patients with obesity may influence weight loss after Bariatric surgery, as it decreases leptin's action on satiety and energy expenditure. Leptin Fat mass Ratio (LFR) reflects LR through high fat-mass-adjusted plasmatic leptin, and was studied here as a potential predictive factor of weight loss 24 months after Bariatric surgery.

Methods:
This study is a single center prospective study conducted at Indraprastha Apollo Hospital. Data on age, sex, height and type of surgery was collected at baseline. Weight, Body Mass Index (BMI), plasmatic leptin and bio impedance-Fat Mass were assessed at baseline and at 3, 6, 12, and 24 months postoperatively. LFR was defined as [Leptin (ng/ml)/Fat mass (%)] and excess BMI Loss (EBL) as [(preoperative BMI – current BMI)/ (baseline BMI − 25)]. Retrospective multivariate regression analysis evaluated the predicting value of baseline LFR on 24 months-postoperative EBL (24%EBL). T-student test compared baseline, 3, 6 and 12 months-postoperative LFR in patients with 24 %EBL > 50% and 24%EBL < 50%.

Results:
A total of 182 individuals were included (135 women, 47 men; mean age 44.8 years, mean weight 120.6 kg, mean BMI 43.7 kg/m2), of whom 81.9 % had One Anastomosis Gastric Bypass and 18,1% had Sleeve Gastrectomy. Baseline LFR was 124, and decreased to 70 at nadir EBL. No significant correlation between baseline LFR and 24%EBL was shown (p-value = 0.92). Mean preoperative LFR was not different between patients with 24 %EBL > 50% and < 50% (absolute difference 0.37, p-value = 0.79). However, mean LFR at 6 month was higher in 24 %EBL < 50% (p-value = 0.047).

Conclusion:
Preoperative LFR does not appear as a predictive factor of weight loss after bariatric surgery. This suggests that LR is not a major player in weight loss following surgery.

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Preoperative micronutrient supplementation: results of the IMPACT study

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Background:
Deficiencies for micronutrients are common in (preoperative) patients with obesity. After metabolic surgery these deficiencies increase and are the most common complication after bariatric surgery. Most guidelines advice to measure patients micronutrients status preoperative and supplement deficiencies to minimize chances on early postoperative deficiencies.

Objective:
To examine the effectiveness of the specialized multivitamin supplement, on preoperative micronutrient levels in patients planned for metabolic surgery.

Design:
Patients were given this optimised multivitamin based upon an extensive literature search and prior studies, for six weeks long. It contains for example higher levels of vitamin B1 (5.5mg, 500%RDA), B12 (100mg, 4000%RDA), Vitamin D (75mg, 1500%RDA) and iron (24mg, 174% RDA). Micronutrient laboratory measurements were taken before and after.

Results:
At baseline, a total of 100 patients were included and measured. Significant serum level increases were found for Iron (+2.1, $p<0.001$), hemoglobulin (+0.37, $p=0.005$), folic acid (+10.9, $p<0.001$), vitamin B1 (+9.9, $p<0.001$) and vitamin D (+11.0), $p<0.001$). Deficiencies declined spectacular, iron deficiencies decreased from 31% to 16% ($p=0.003$) as did folic acid deficiencies with a drop from 42 to 7% ($p<0.001$). Vitamin D deficiencies went from 89% to 50% ($p<0.001$). No specific differences were found in higher BMI groups or between male and female patients.

Conclusion:
A specialised supplement starting six weeks before surgery resulted in a large range of micronutrient serum level increases and reduction in deficiency rates. In theory this will reduce or delay postoperative, clinically significant deficiencies in our metabolic patients.

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Primary care practitioner and patient perspectives on care following metabolic bariatric surgery: a meta-synthesis of qualitative research

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Primary care is central to ongoing health care following metabolic bariatric surgery (MBS) and patients indicate a preference for receiving follow-up support by their primary care practitioner (PCP). This meta-synthesis investigates the perspectives of both PCPs and patients in post-MBS care provided by PCPs.

The aim was to synthesize themes from qualitative research to recommend improvements in post-MBS clinical care in primary care settings. Systematic searches of Scopus, Medline, EMBASE, PsycINFO, the Cochrane Library and Google Scholar resulted in the inclusion of eight papers in the meta-synthesis. Papers were critiqued using the Critical Appraisal Skills Program (CASP) and thematically coded in Quirkos Cloud.

Seven themes were reached by author consensus including stigma and judgement; clinician barriers and facilitators; patient-related support needs; communication considerations; patient context or determinants; health care setting; and adapting to life after surgery. PCPs report poor communication, collaboration and guidance from surgery centres and limited knowledge of MBS patient care. Patients seek comprehensive care from their PCP, however, both intrinsic and external barriers hinder the provision of this care.

Insights from this meta-synthesis offer actionable recommendations for PCPs and metabolic bariatric surgery centres to enhance patient care immediately.

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Prospective randomised controlled trial comparing fixed versus tailored limb lengths for laparoscopic duodenal switch procedure

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Background:
Laparoscopic duodenal switch with sleeve gastrectomy (DS) is an effective metabolic bariatric surgery (MBS). The classical DS involves tailoring the partitioning of the small bowel to the total small bowel length (TSBL) with 50% biliopancreatic limb (BP), 40% alimentary limb (AL) and 10% common channel (CC) (but not <100cm). The fixed DS involves creating a 100cm CC and 150cm AL. TSBL and thus the BP length are highly variable - raising the possibility of improved outcomes with tailored limb lengths (TLL).

Objectives:
Determine if TLL based on TSBL compared to fixed limb lengths (FLL) for DS translate to better postoperative outcomes for:

- Excess weight loss (EWL)
- Comorbidity resolution
- Quality of life (QOL)

Methods:
A single centre, double-blinded, randomised controlled trial was carried out. Eligible patients were randomised to undergo either TLL or FLL DS. Anthropometric, comorbidity and QOL data was collected pre-operatively and at regular follow up intervals up to three years postoperative. QOL data is currently being collated and due for completion in August 2024. Statistical analysis was completed using univariate analysis and linear regression for confounding variables to determine statistically significant differences in EWL.

Results:
52 patients completed follow-up to three years of the 59 enrolled (88%). Mean preoperative BMI was 50.6 ±5.3 (range 40.2–67.9). TSBL was 768.1 ±156.6cm (range 380-1175). EWL was similar in both groups at three years (82% FLL vs. 80% TLL, p=0.73). EWL remained similar in both groups even after adjustment for age, gender and TSBL (p=0.34). 19 patients (32%) with type 2 diabetes mellitus and 30 patients (51%) with hyperlipidaemia all achieved remission (100%). 17/18 (94%) patients with obstructive sleep apnoea achieved remission. 20/23 (87%) patients with hypertension achieved remission. No patients required conversion to open surgery. There were no mortalities during the follow up period.

Conclusion:
The DS is a highly effective MBS to treat obesity and obesity related comorbidities. Tailoring the limb lengths based on TSBL did not impact EWL at three years postoperative. Quality of life data will be collated for presentation by August 2024.

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Proximal gastric anatomical variants (retained fundus and hiatus hernias) post sleeve gastrectomy: utilizing tailored physiological investigations

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Background:
Anatomical variations such as retained fundus/hiatus hernia following sleeve gastrectomy (SG) can be associated with severe adverse symptoms or none, suggesting substantial variability in the functional significance of these variations. Current investigations lack validations and definite diagnostic criteria for objective diagnosis. We hypothesised, these variations will be significant if it resulted in physiological abnormalities identified on readily available investigations: high resolution manometry (HRM) and nuclear scintigraphy (NS) with some adaptations.

Objective:
The aim of this study is to evaluate the clinical utility of HRM and NS in identifying the pathophysiology of adverse symptoms in proximal gastric anatomical variants post sleeve gastrectomy.

Methods:
We undertook a prospective trial with 22 symptomatic and 18 asymptomatic patients with anatomical variations noted on surveillance endoscopy and 56 optimal sleeves (normal sleeve anatomy). All indidviduals underwent endoscopy, liquid contrast swallow, HRM, 24-hour pH analysis (pH) and protocolised nuclear scintigraphy gastric emptying and oesophageal transit. .

Results:
There were 90% females, aged 47.6 years. Endoscopy and liquid contrast swallow findings were similar. HRM showed an elevated peak oesophageal (10.5mmHg (IQR 4-15.9) vs 4.5 (4.2-6) mmHg) and proximal intragastric isobaric pressure (30 (16-47.4)mmHg vs 19.7 (16.9-25.2)mmHg), in symptomatic versus asymptomatic patients, p-value<0.05. pH analysis showed higher total reflux events in symptomatic vs asymptomatic group (91 vs 46), p-value 0.013. These data correlated with nuclear scintigraphy; showing elevated reflux events 98 vs. 18 vs. 4 (p-value<0.001), prolonged gastric emptying half-time (29 vs. 31 vs. 19 minutes, p=0.001) and higher percentage of retained meal in the proximal stomach 16.7% vs. 4% vs 1.5%, p=0.001 was observed.

Conclusion:
Anatomical variations in the proximal stomach are significant if resulted in bolus obstruction or stasis. Obstruction can be characterised by elevated isobaric oesophageal and proximal intragastric pressures on HRM; stasis by retention in the proximal stomach with repeated macro reflux events on NS. Endoscopy and liquid contrast swallow are useful adjuncts but lack sensitivity and specificity to detect the underlying physiological dysfunction.

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Psychological and sociodemographic characteristics of bariatric surgery candidates in the bariatric & metabolic surgery clinic of EIMC of Thessaloniki

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Background:
Pre-surgery psychological evaluation has become an essential part of the assessment for those individuals seeking bariatric surgery. The psychiatric comorbidity and the sociodemographic characteristics of this population have attracted the interest of many researchers because of their relevance to the results of the optimal clinical response.

Objectives:
The objective of this study is to present the psychological and sociodemographic characteristics of the bariatric surgery candidates in the Bariatric & Metabolic Surgery Clinic at the European Interbalkan Medical Center (EIMC) of Thessaloniki.

Methods:
We reviewed the archives of our candidates between June 2019 and December 2023 (4,5 years) and compared their psychological and sociodemographic characteristics with those of international studies.

Results:
In total 538 individuals sought examination as candidates for metabolic bariatric surgery (228 men 42%, and 310 women 58%) and after initial screening from our interdisciplinary team 501 proceed to the second stage for further evaluation with an average BMI of 47,65. Of those 501, 419 apart from the necessary clinical evaluation agreed to participate in the study completing the full version of our psychometric assessment. Out of the 419 study individuals 170 were men (40,5%) and 219 were women (59,5%) with an average BMI of 47,84. Their average age was 41 years old and their average education years was 13,4. 25,2% of those 419 candidates had an Axis I diagnose (according to DSM-IV) with the majority being anxiety, depression or eating disorder and 18,6% were taking medication for their psychiatric problems. 29,8% of those 419 candidates fulfilled the criteria of a personality disorder (Axis II).

Conclusion:
Candidates of metabolic bariatric surgery of the Bariatric & Metabolic Surgery Clinic at the EIMC of Thessaloniki seem to have high percentage of mental health issues compared to general population but our results are in accordance with international studies reporting that up to 57% of bariatric patients face mental health problems.

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Public bariatric surgery in Aboriginal and Torres Strait Island patients

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Introduction:
Obesity is a public health problem that disproportionately affects Aboriginal and Torres Strait Islander people (Indigenous Australians). First Nations people were 1.5 times more likely to suffer from obesity compared to non-Indigenous Australians (46% vs 30%) in 2018-19. Obesity is also significantly associated with several of the leading causes of mortality in Indigenous Australians, including coronary heart disease, cerebrovascular disease, and certain cancers. Despite this, there is a paucity of literature on the experience of bariatric surgery in this demographic.

Methods:
We conducted a retrospective review of the bariatric surgery outcomes in Indigenous Australians within a Statewide public bariatric surgery program. Patient demographics, perioperative, and short term (1 and 2-year) follow-up was reviewed and compared to non-Indigenous patients.

Results:
There were 122 patients (31 male, 91 female) with a mean age of 46.4 years and mean body mass index (BMI) was 45.8kg/m2. There were 103 (84.4%) primary and 19 (15.6%) revisional surgeries. The operations performed were laparoscopic sleeve gastrectomy (50, 41.0%), Roux-en-Y gastric bypass (44, 36.1%), one anastomosis gastric bypass (26, 21.3%), and adjustable gastric banding (2, 1.6%). The mean change in BMI (ΔBMI) at 6-months, 12-months, and 2 years was -9.0 (±4.7) kg/m2, -11.2 (±6.1) kg/m2, and -11.0 (±6.6) kg/m2. At 2 years, percent total weight loss (%TWL) was 25.3% (±17.2), percent excess weight loss (%EWL) was 60.4% (±53.5) and percent excess BMI loss (%EBMIL) was 55.1% (±40.2). Of the 78 patients with diabetes, postoperatively 53 patients (69.8%) underwent either remission (18, 23.7%) or improvement (35, 46.1%) of their diabetes. The 30-day morbidity (≥ Grade III) was 4.9%.

Conclusion:
Bariatric surgery is an effective weight loss option for Indigenous Australians, as well as a successful treatment for diabetes. These results support the engagement of Indigenous Australians with bariatric surgery.

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Public bariatric surgery in Australia: 2-year weight and metabolic outcomes

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Background:
Bariatric metabolic surgery (BMS) has emerged as a safe and effective treatment for severe obesity, however access in Australia remains predominantly confined to the private healthcare sector. Long-term safety and efficacy outcomes of publicly funded BMS remain unexplored.

Objectives:
To assess 2-year efficacy and safety outcomes of BMS in public health patients in Australia.

Methods:
A retrospective review of BMS within a high-volume public institution in Queensland, Australia between December 2016 and December 2021 was performed. Eligibility for BMS required a BMI of >35kg/m^2 and diagnosis of type-II-diabetes mellitus (T2DM). Patient demographics, early post-operative complications, and post-operative weight and metabolic outcomes to 2-years follow-up were assessed. Early complications (within 90-days) were classified as Clavien Dindo grade ≥ IIIb. Complete remission of T2DM was defined as HbA1c ≤ 6.5% in the absence of hypoglycaemic agents.

Results:
214 patients (115 female, mean age 52 years) underwent BMS during the study period. The most common procedure was Roux-en-Y gastric bypass (n=177, 82.7%), followed by sleeve gastrectomy (n=33, 15.4%) and single anastomosis gastric bypass (n=4, 1.9%). Of the 214 patients, 193 (90.2%) were followed-up to 2 years. Mean weight and BMI at baseline were 130kg (18.2) and 46 (7.0) kg/m^2. Pre-operatively, 67.2% (n=144) of patients required insulin therapy and mean HbA1c was 8.6 (1.4)%. All procedures were laparoscopic and there were no conversions to open. Mean length of stay was 2.8 days. 16 patients (7.4%) developed clinically significant post-operative complications within a 90-day period. 14 patients required endoscopic intervention (6.54%) and 2 returned to theatre for an anastomotic leak (0.9%). There was no 90-day post-operative mortality. Mean total weight loss (TWL) was 37.8 (11.5)% and 39.9 (15)% at 12 and 24 months. Only 11.3% (n=22) of patients remained on insulin at 24 months. Mean reduction in HbA1c was 23.4 (16.1)% at 24 months. 48.1% (n=93) of patients experienced complete remission of T2DM at 24 months.

Conclusions:
In Australia, publicly funded BMS is safe and effective when performed in a high-volume institution, producing significant and sustained weight loss and improvements in T2DM at 2 years.

Oral

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Quality of life in gastroesophageal reflux disease one year after sleeve gastrectomy

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Sleeve gastrectomy is the most commonly performed bariatric surgery worldwide. Understanding how this surgical approach influences various dimensions of quality of life is essential for both medical practitioners and patients. One of the most frequent long-term complications of this surgery is gastroesophageal reflux disease (GERD).

Objective:
To assess the quality of life in GERD patients after sleeve gastrectomy.

Methods:
A comprehensive review of cases took place at Hospital Militar de Santiago in Chile, utilizing electronic databases. The study focused on individuals who underwent sleeve gastrectomy to address obesity. Patients were selected by filtering through the code assigned to sleeve gastrectomy from 2016 to 2022. Electronic records were reviewed by the authors. A telephone survey was conducted to obtain information on the quality of life of GERD (GERD-HRQL). Exclusion criteria encompassed patients undergoing alternative weight loss procedures, simultaneous interventions, or those with different reasons for undergoing the surgery.

Results:
387 patients with a mean age of 42.1 years ± 15.2 were analyzed. The most frequent comorbidities were insulin resistance (76%), fatty liver (61%), dyslipidemia (42%), HBP (36%), OSAHS (12%). The average preoperative weight and BMI were 105.2 ± 16.3 kg and 38.6 ± 4.3 kg/m² respectively. The GERD quality of life survey presented an average score of 4.1 ± 3.3 points at 1 year of follow-up.

Conclusions:
Sleeve gastrectomy proves to be an effective MBS, and the quality of life at one year of follow-up is not severely affected by GERD. Further studies may be conducted to identify risk factors for GERD.

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Quality of life, psychology and metabolic bariatric surgery - randomised controlled trial comparing sleeve gastrectomy versus Roux-en-Y gastric bypass

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Te Whatu Ora - Waitemata, University of Auckland

Background:
Metabolic Bariatric Surgery (MBS) is a proven method for weight loss and improvement in obesity-related comorbidities. This can result in a significant change in psychosocial wellbeing which may confer reduction in overall health burden. Conflicting evidence exists regarding the longer term psychosocial and quality of life improvements following MBS, particularly in patients that experience depressive symptoms.

Objectives:
In patients with obesity and type 2 diabetes mellitus who underwent Silastic Ring Laparoscopic Roux-en-Y Gastric Bypass (SR-LRYGB) and Laparoscopic Sleeve Gastrectomy (LSG).
Determine the psychological impact, how this changed over time and whether it was impacted by type of MBS.
Determine if the presence of preoperative depressive symptoms had an impact on weight loss long term.

Methods:
A single centre, double-blinded, randomised controlled trial was carried out. Eligible patients were randomised to undergo either SR-LRYGB or LSG. Hospital anxiety and depression scale, RAND 36-item health survey data and anthropometric data were documented pre-operatively and at regular follow up intervals. Data were collated for five years post-operatively. Ten year postoperative data are currently being collated and due for completion in August 2024.

Results:
Sixteen patients were lost to follow up at five years with 98 (49 per group) completing 5-year psychological assessments. Thirteen patients had depressive symptoms at baseline (SR-LRYGB n=7 and LSG n=6). These patients had similar five year percentage weight loss as those patients without depressive symptoms, regardless of type of surgery. Both groups had a similar improvement in psychological health, including depressive symptoms and most RAND-36 domains. Both procedures were associated with initial improvement in anxiety which did not persist to five years. Percentage total body weight loss was higher for SR-LRYGB by 10.6% (95% CI: 7.2 to 14.0, P< 0.0001).

Conclusion:
SR-LRYGB and LSG were both associated with improved depressive symptom scores and physical quality of life scores from baseline to five years. However anxiety remained unchanged long term. Ten year postoperative analysis for quality of life and psychosocial data will be completed by August 2024 and presented.

Oral

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Quantifying body composition changes 12 months following bariatric surgery: Sleeve gastrectomy vs Roux-en-Y gastric bypass

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Purpose:
There is a scarcity of data on body composition changes after the two most widely performed bariatric procedures - laparoscopic sleeve gastrectomy (SG) and laparoscopic Roux-en-Y gastric bypass (RYGB). The objective of this study was to analyse the changes in body composition between these two procedures during the first year after surgery.

Methods:
A prospective cohort study was performed in patients undergoing bariatric surgery at two tertiary hospitals between 2017 and 2023. Body composition was assessed with dual-energy X-ray absorptiometry immediately before surgery, and at 1, 6, 12, 18 and 24 months post-operatively. Total weight loss (TWL), excess weight loss (EWL), body mass index (BMI), fat mass (FM), lean body mass (LBM) and bone mineral content (BMC) parameters across the study period were compared between SG and RYGB.

Results:
Forty-five patients were included (SG n=30; RYGB n=15). There was a significant reduction in mean %TWL of 26.94 ± 8.86% and mean BMI of 11.12 ± 3.70 kg/m^2 over 12 months. LBM accounted for 17.8% of TWL over 12 months, SG and RYGB did not differ in terms of loss of FM or LBM. For both procedures, the loss of LBM appeared to plateau at 6 months post-operatively. The only statistically significant finding between the two procedures was that RYGB resulted in an additional 0.06 kg loss compared with SG.

Conclusion:
SG and RYGB were shown to have comparable body composition changes in the short-to-medium term period following surgery. Given that there is a significant reduction in LBM which predominantly occurs in the early post-operative period, further research is warranted to implement a structured exercise and nutritional program during this window to mitigate LBM losses.

Oral

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Relationship between genetically predicted adiposity distribution and risk of ventral hernia: mendelian randomization analysis

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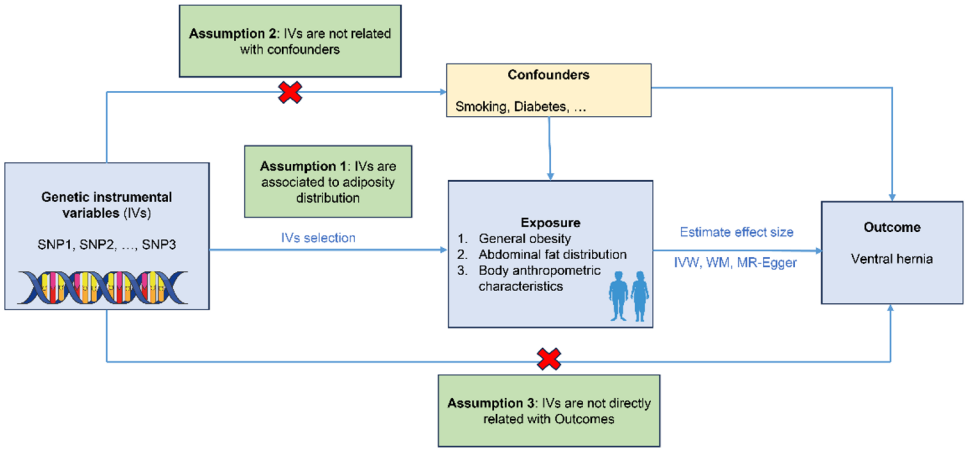
Background:
Obesity is a complex disease and can cause complications other than metabolic diseases. In this study, we will mainly focus on the relationship between obesity and ventral hernia (VH). VH is a common surgical disease, and with the increased prevalence of obesity, the incidence rate, as well as the recurrence rate of VH might increase as well. Furthermore, recent studies have shown that obesity cannot simply be defined using body mass index (BMI), as there are multitude of parameters available to measure obesity.

Purpose:
Previous studies suggested that obesity is an important risk factor for VH. However, the causal relationship between fat distribution and a higher risk of VH is still unclear. This study uses Mendelian randomization (MR) to evaluate their causal relationship.

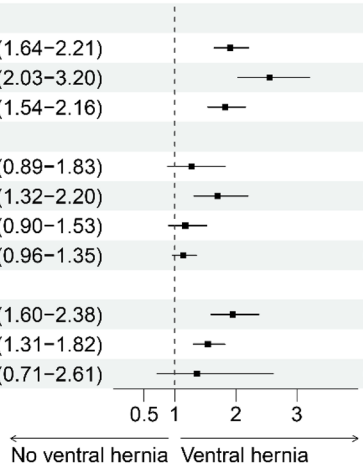
Methods:
We used the BMI, body fat percentage, and body fat mass as general obesity, the volume of abdominal subcutaneous adiposity tissue (SAT), visceral adiposity tissue (VAT), and waist circumference (WC), hip circumference (HC), waist-to-hip ratio (WHR) as abdominal adiposity. The data were extracted from the large-scale genome-wide association study of European ancestry. We used two-sample MR to infer causality, using multivariate MR to correct the effects of confounding factors.

Results:
Increased BMI, body fat percentage, body fat mass, VAT, WC, and HC rather than SAT or WHR are causally associated with a higher risk of VH. The results of multivariate MR suggest that body fat percentage is causally associated with a higher risk of VH after adjusting for body mass index, diabetes, and smoking.

Conclusion:
General obesity, increased VAT, WC, and HC rather than SAT or WHR are causally associated with a higher risk of VH. These conclusions provided a deeper understanding of the role of the distribution of adiposity in the mechanism of VH.



Exposure	No. of SNP	OR(95%CI)	P-Value
General obesity			
Body mass index	432	1.91 (1.64-2.21)	<0.01
Body fat percentage	372	2.55 (2.03-3.20)	<0.01
Whole body fat mass	412	1.83 (1.54-2.16)	<0.01
Abdominal fat distribution			
SAT	37	1.27 (0.89-1.83)	0.19
VAT	37	1.70 (1.32-2.20)	<0.01
Pancreas fat	27	1.17 (0.90-1.53)	0.24
Liver fat	32	1.14 (0.96-1.35)	0.12
Anthropometric measurements			
Waist circumference	351	1.95 (1.60-2.38)	<0.01
Hip circumference	398	1.54 (1.31-1.82)	<0.01
Waist-to-hip ratio	28	1.36 (0.71-2.61)	0.35



Oral

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Remission and improvement of obesity-associated comorbidities before and after SG or RYGB in Latin America: a systematic review and meta-analysis

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Background:
Obesity, highly prevalent in Latin America, contributes to systemic arterial hypertension, dyslipidemia, diabetes mellitus, gastroesophageal reflux disease, alterations in glomerular filtration rate, and obstructive sleep apnea, impacting long-term health. Bariatric Metabolic surgeries such as SG or RYGB have shown global effectiveness in mitigating these comorbidities. However, systematic reviews comparing surgical outcomes within Latin America are scarce, despite the region's elevated rates of obesity and associated comorbidities. This lack underscores the necessity for research specifically investigating the efficacy of these surgical interventions in the Latin American context.

Objective:
Examine and analyze scientific evidence to determine the prevalence of improvement or remission of comorbidities following SG or RYGB in Latin American patients.

Methods:
This review was conducted in accordance with the 2020 PRISMA Guidelines. The searches were done in PubMed, ScienceDirect (ELSEVIER), EBSCO, Redalyc, SciELO, Cochrane, PROSPERO and Springer. The search was conducted from February to June 2023. The included articles were assessed using the adapted Joanna Briggs Institute Critical Appraisal Checklist. Additionally, Cochrane risk of bias tools ROBINS-I and RoB-2 were employed to assess study quality. This review is registered with PROSPERO ID: CRD42023417816.

Results:
For this review, 33 articles were included for qualitative analysis. Of the 4,276 patients in the studies, 3,526 underwent RYGB and 741 underwent SG. The point where comorbidity remission was most reported was at 12 months post-surgery. Individuals undergoing RYGB achieved remission rates of 85.7% for T2DM, 54.1% for SAH, 82.5% for DLD, 83.9% for OSA, and 70% for GERD. MetS decreased from 100% to 35%. Renal function normalized in these participants. For those undergoing SG, remission rates were 85% for T2DM, 64% for SAH, and 35% for DLD. Incidence of de novo GERD was 79.48%.

Conclusion:
RYGB proved to be the most effective surgical technique for comorbidity remission one year post-surgery compared to SG in Latin American individuals. Furthermore, those undergoing RYGB showed improvement in e-GFR.

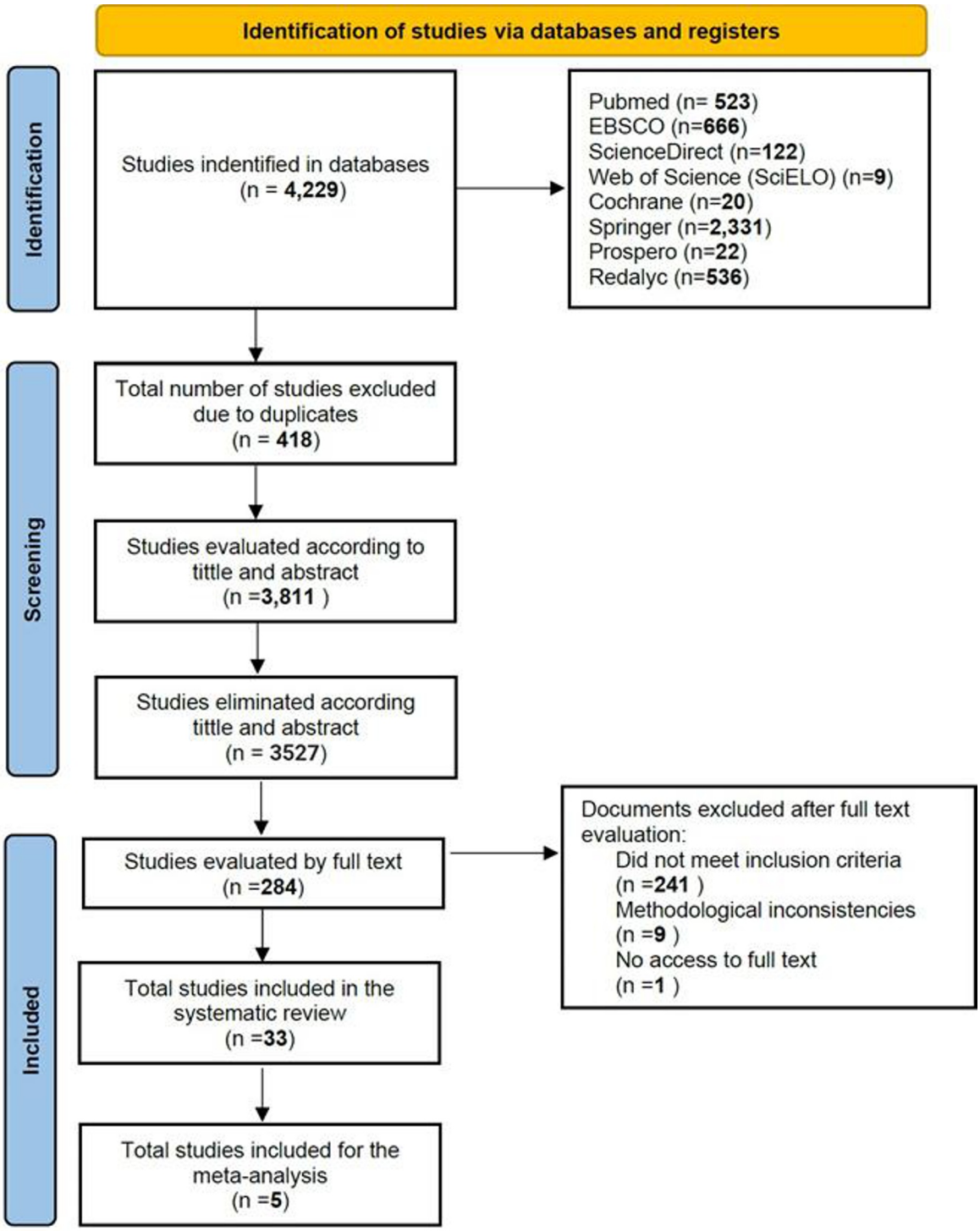

Fig 1 Study selection flowchart PRISMA 2020. Adapted from Page MJ et al. The PRISMA 2020.

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Remission of comorbidities following one anastomosis gastric bypass in Latin America: a systematic review

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Background:
Obesity is associated with the development of comorbidities such as GERD, T2DM, SAH, and DLD, significantly impacting quality of life. Conventional treatments often prove ineffective for severe obesity, leading to a preference for surgical interventions, particularly bariatric-metabolic surgery. This preference is partly due to the correlation between %EWL and improved quality of life resulting from comorbidity remission or improvement. Among the three most prevalent surgical techniques globally—SG, RYGB, and OAGB—the latter is gaining popularity due to its low complication rates and significant short- and long-term benefits in weight loss and comorbidity remission. Despite global literature documenting comorbidity remission post-OAGB, Latin America lacks systematic reviews, despite having some of the highest obesity rates worldwide.

Objectives:
This study aimed to evaluate the remission rates of GERD, T2DM, SAH, and DLD following OAGB in Latin American populations. Methodology: This review is registered with PROSPERO ID: CRD42023418205 and was conducted following the 2020 PRISMA Guidelines. Searches were performed in PubMed, ScienceDirect (ELSEVIER), Springer, Web of Science (SciELO), Redalyc, Cochrane, PROSPERO, and EBSCO from February to May 2023. The included articles were evaluated using the adapted Joanna Briggs Institute Critical Appraisal Checklist. Additionally, Cochrane risk of bias tools ROBINS-I and RoB-2 were utilized to assess study quality.

Results:
This review analyzed n=10 articles, comprising data from n=570 participants. n=324 underwent OAGB, n=134 RYGB, n=65 SG, and one study with n=47 participants did not categorize the population by technique. Maximum weight loss and comorbidity remission were observed one-year post-surgery. Following OAGB, T2DM and DLD achieved 100% remission, while SAH reached an 80.7% remission rate. GERD only demonstrated improvement in conjunction with conventional medical treatment. These outcomes surpassed remission rates observed in the RYGB and SG groups, with the exception of GERD, although no statistical differences were noted among the surgical techniques.

Conclusion:
The evidence suggests that OAGB outcomes are comparable to RYGB and superior to SG. Those undergoing OAGB achieved an %EWL of 89.4%, 100% remission of T2DM, 80.7% remission of SAH, and 100% remission of DLD one-year post-surgery. Most studies included in this review attributed comorbidity remission to %EWL.

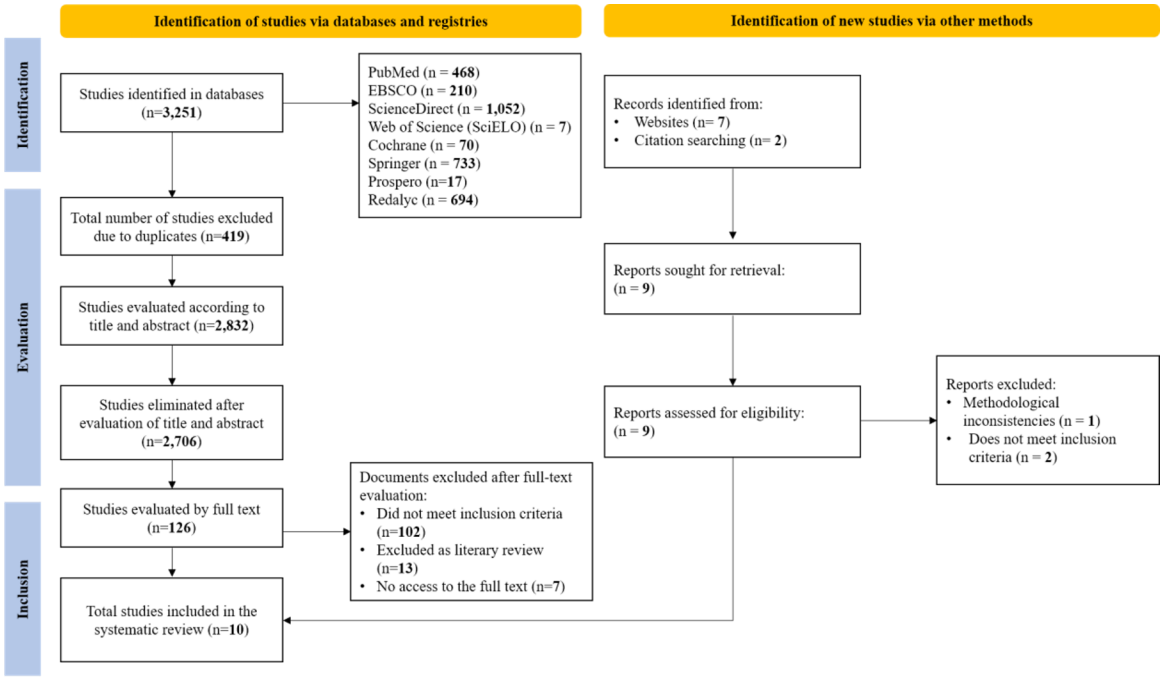

Fig. 1. Study selection flowchart PRISMA 2020. Adapted from Page MJ et al. The PRISMA 2020

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Replicating same-day case metabolic bariatric surgery programs in free-standing ambulatory surgical centers

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Transform Weight Loss

Background:
Metabolic Bariatric Surgery (MBS) is commonly performed in an inpatient or hospital setting. Same-day case (SDC) MBS has not been performed due to concern for patient safety and complications after discharge. Procedures performed in ambulatory surgical centers (ASC) provide several advantages over hospital-based surgery by improving patient experience, decreasing hospital acquired infections, decreasing cost, and increasing access to MBS. We previously reported our experience with performing 2,534 patients who underwent sleeve gastrectomy (SG) in an ASC. We have replicated the SDC program with a new team in two uniquely different and new ASCs using previously established ERAMS protocols. In this study we present the outcomes of 147 SDC MBS cases done at two different ASCs. Developing de novo bariatric programs safely in ASCs will improve access to MBS care.

Objective:
To report safe and effective protocols for replicating same-day case metabolic bariatric surgery.

Setting:
Two different independent free-standing ASCs

Methods:
Data was collected retrospectively for all patients undergoing MBS from June 2019 -March 2024, n = 147. Patients were excluded from the ASC criteria if they weighed >400 pounds, if anticipated surgery time was > 2 hours, if the patient had impaired mobility limiting early ambulation, if they had chronic obstructive pulmonary disease, severe sleep apnea or moderate cardiac risk. All patients were discharged same day.

Results:
Mean age was 43.6 years (18-72). Mean preoperative body mass index (BMI) was 43.2 (29-67.6). Mean operative time was 85 minutes (31-210). Average postoperative recovery time length at the ASC was 260 minutes (51-526). Most were discharged within 2 hours of the procedure. Complications included: 2 direct transfers to the hospital for further monitoring. Two patients were re-admitted with post-operative bleeding, and one required a re-operation at post-op day 1. One patient suffered a pulmonary embolism on post-op day 9 and was re-admitted. There were no mortalities.

Conclusion:
With an experienced metabolic surgeon, ERAMBS protocols, and a consistent operative team, MBS can be performed safely as a SDC in a free-standing ASC on selective patients.

Oral

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Research on the prediction model for early biliary stasis after sleeve gastrectomy based on machine learning algorithms

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Background:
Obesity and sleeve gastrectomy are known risk factors for gallstone disease, primarily manifested by early biliary stasis. Yet, there is a lack of effective predictive models for assessing the risk of early biliary stasis in patients, hindering personalized early pharmacological interventions.

Objective:
The objective of this study was to develop and validate a predictive model for the risk of early biliary stasis following sleeve gastrectomy using four machine learning (ML) algorithms: logistic regression, random forest, K-nearest neighbours, and support vector machine.

Methods:
We retrospectively collected clinical data from 900 patients who underwent sleeve gastrectomy, dividing them into a training set of 600 and a test set of 300, based on a 3:1 ratio. Feature selection for biliary stasis was performed through univariate analysis, followed by the construction and variable importance ranking of models using the aforementioned algorithms. The models were validated in the test set by drawing receiver operating characteristic (ROC) curves, with the optimal ML model determined by area under the curve (AUC), sensitivity, specificity, and accuracy. A nomogram was constructed based on the optimal model's variable importance ranking, with its discriminative ability, calibration, and clinical utility assessed through ROC curves, calibration curves, and decision curves.

Result:
The comparison of the four ML models indicated that the random forest model was superior, with an accuracy of 78.5%, sensitivity of 71.9%, specificity of 76.0%, and an AUC of 0.873 in the training set. In the test set, it achieved an accuracy of 72.4%, sensitivity of 68.3%, specificity of 66.5%, and an AUC of 0.771. The nomogram, based on the random forest model, showed AUCs of 0.821 and 0.801 in the training and test sets, respectively, demonstrating good calibration and clinical applicability.

Conclusion:
Among the four ML models, the random forest algorithm emerged as the most effective for predicting the risk of early biliary stasis after sleeve gastrectomy. The nomogram developed from this model can accurately predict the risk, significantly enhancing clinical diagnosis and treatment decision-making.

Oral

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Residual risk of adverse maternal, fetal and infant outcomes following surgical weight loss: a population-based, matched cohort study

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Background:
Obesity is associated with a higher risk of adverse maternal, fetal and infant outcomes but obesity treatments are increasing in efficacy. It is not known whether individuals who have had substantial weight loss are at increased residual risk of adverse pregnancy and neonatal outcomes.

Objective:
To examine whether there is a residual risk of obesity on adverse maternal, fetal and infant outcomes after bariatric surgery.

Methods:
Retrospective, population-based, multi-centre, matched cohort study using several provinical linked administrative databases. Outcomes and confounders were defined using multiple linked administrative databases. Patients who underwent surgical weight loss for obesity from 2010 to 2016 and subsequently became pregnant were matched on multiple factors to pregnant patients based on BMI. The control group was divided into four BMI categories: <25, 25-30, 30-35, and >35 kg/m2 . Surgical weight loss and usual care for pregnancy versus usual care for pregnancy across BMI categories were compared. Main outcomes and measures include: pregnancy and labour outcomes (incidence of gestational diabetes, preeclampsia/HELLP syndrome, postpartum hemorrhage, and caesarean delivery) and major fetal and infant outcomes (neonatal death/stillbirth, preterm birth, SGA, LGA, congenital malformation, and a composite of severe fetal/infant morbidity/mortality). Multivariable regression was used to evaluate outcomes.

Results:
We identified 698 patients that underwent bariatric surgery and later became pregnant and 8,369 comparators. For the surgical group, gestational diabetes and preeclampsia/HELPP outcomes were similar to the lowest BMI group and improved compared to other BMI groups. Associations between bariatric surgery and neonatal size were observed, with the post-surgical group showing a higher observed incidence of SGA and lower rates of LGA compared to all groups. There were no observed adjusted associations between bariatric surgery and any severe adverse fetal or infant outcomes across BMI.

Conclusions:
Substantial weight loss through bariatric surgery appears to improve outcomes through both weight dependent and independent mechanisms as the risk profile is generally better than BMI would predict. Overall, there appears to be no major residual risk of obesity on obstetrical outcomes. In addition, these patients have a unique clinical trajectory compared to their peers that should be considered.

Oral

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Resolution of obesity-related comorbidities in Indigenous and non-Indigenous Ontarians following bariatric surgery: A retrospective cohort study

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Division of General Surgery, McMaster University

Background:
Rates of obesity and obesity-related comorbidities are higher in Indigenous Canadians than non-Indigenous Canadians. Bariatric surgery remains a proven treatment for obesity.

Objectives:
To determine whether Indigenous Ontarians have similar responses to bariatric surgery versus non-Indigenous Ontarians, including change in BMI and comorbidity resolution.

Methods:
This is a retrospective cohort study using prospectively collected data from bariatric surgeries in Ontario, Canada, from 2010-2024. Unadjusted effect estimates were produced using chi-square tests or univariate logistic regression. Multivariable linear regression was done, including for 6-month and 1-year change in BMI. Multicollinearity was evaluated using variance inflation factors, variance proportions, and conditional indices.

Results:
Overall, 32,196 patients with ethnicity data were included: 31,213 non-Indigenous and 983 Indigenous patients. Baseline demographics including sex and BMI were not different between groups; the Indigenous cohort had higher prevalence of hypertension (43.1% vs. 40.2%; p < 0 .001) and diabetes (33.9% vs. 25.2%; p < 0 .001). At 6-months, the groups had similar change in BMI. Both groups had decreases in rates of diabetes and hypertension. At 1-year, the Indigenous group had a smaller change in BMI than the non-Indigenous group (p=0.020), but this difference was small, and the mean BMI was not different between groups (Indigenous: 32.98kg/m2(6.76); non-Indigenous 32.73kg/m2(6.94)). The Indigenous group still had higher rates of diabetes (17.37% vs. 12.69%), however had greater resolution of diabetes. Similarly, the prevalence of hypertension was not different between groups at 1 year (p=0.676), despite the initial differences. The unadjusted odds ratio of having hypertension at 1-year is 1.050 (p=0.676) and of diabetes is 1.446(p=0.005). In logistic regression of 1-year change in BMI (p < 0 .001, R2 0.079), Indigenous status and baseline diabetes were each significant in both unadjusted and adjusted models, whereas baseline hypertension was only significant in the unadjusted estimate.

Conclusion:
Indigenous patients have higher baseline rates of obesity-related comorbidities despite similar BMI, and experience greater resolution of obesity-related comorbidities after bariatric surgery independent of BMI change. This suggests that Indigenous patients benefit more from bariatric surgery, independent of weight loss. Further research to determine whether bariatric surgery should be offered to this population at lower BMI in light of these findings is required.

Oral

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Rethinking advantageous risk profile of endoscopic sleeve gastroplasty over laparoscopic sleeve gastrectomy: an MBSAQIP analysis

Thomas Shin, Jerry Dang, Eric Sheu, Pourya Medhati, Vasundhara Mathur, Ali Tavakkoli, Abdelrahman Nimeri

Background:
Endoscopic sleeve gastroplasty (ESG) is increasingly popular given its purported favourable periprocedural risk profile and outpatient nature. However, the relative advantage of these characteristics compared to laparoscopic sleeve gastrectomy (LSG) remains unclear.

Objectives:
To ascertain post-procedural 30-day complication, Emergency Department (ED) utilization, and outpatient dehydration risk advantage gained by ESG over LSG in patients with severe obesity.

Methods:
Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data from 2020 to 2022 were collated to identify 387,901 LSG and 1,785 ESG patients for multivariable analysis. Primary outcome was all 30-day postprocedural complications. Secondary endpoints included ED utilization and outpatient treatment for dehydration within 30 days of procedure (POD30). Patient demographics and clinical data were used to obtain 1:1 matching with nearest neighbour propensity scoring.

Results:
The two groups had numerous statistically significant differences in demographic and clinical characteristics including sex (females: LSG 81.6%, ESG 86.4%; p<0.001), BMI (LSG 44.8, ESG 39.5; p< 0.001), ASA class I-II (LSG 20.0%, ESG 44.3%; p<0.001), diabetes (LSG 20.4%, ESG 12.9%; p<0.001), GERD (LSG 25.8%, ESG 28.0%; p=0.03), prior venous thromboembolism (LSG 2.4%, ESG 1.4%; p=0.006), and racial/ethnic composition (LSG vs ESG: White 52.7% vs 55.5%, Black 21.7% vs 17.0%, Hispanic 19.2% vs 13.0%; p<0.001). Multivariable analysis revealed ESG patients have significantly reduced odds of ED use within 30 days of procedure (OR 0.63, 95%CI 0.50-0.79, p<0.001), increased odds of outpatient treatment for dehydration (OR 1.28, 1.02-1.60, p=0.035), and no difference in composite 30-day postprocedural complications (OR 0.97, 0.70-1.36, p=0.872). Using 1:1 nearest neighbor propensity score matching, the protective effect of ESG on ED utilization is lost (OR 0.84, 0.62-1.15, p=0.276). Matched ESG patients still had significantly higher odds of outpatient treatment for dehydration (OR 1.50; 1.05-2.14, p=0.025) without significant difference in 30-day complications (OR 1.34, 0.81-2.22, p=0.260).

Conclusion:
This study reveals a stark discrepancy in patient characteristics between the two groups and 1:1 matched analysis fails to demonstrate protective effects of ESG on mitigating perioperative risk, underscoring LSG and ESG as disparate procedures with different patient populations. Further investigation into patient eligibility and periprocedural management is needed to optimize ESG outcomes.

Oral

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Revisional bariatric surgery outcomes following suboptimal response post-sleeve gastrectomy: insights from a single Saudi center

Heba Alfaris, Raghad Aljazzar, Saif Almutairi, Wassim Abou Yassine, Ibrahim Alonazi, Salem Alkraydees, Lujain Alyousfi, Ahmad Aljbaie
King Saud Medical City

Background:
Sleeve gastrectomy (SG) has become a popular bariatric procedure, yet suboptimal clinical responses may necessitate revisional surgeries. Evaluating outcomes post-revisional surgery is crucial for optimizing patient care. This retrospective study aims to investigate the outcomes of revisional bariatric surgery following suboptimal clinical responses post-SG at a single Saudi center, providing insights into patient management and surgical interventions.

Objectives:
This study aims to assess the outcomes of revisional bariatric surgery, including comorbidity improvement, complication rates, and weight loss effectiveness, in patients who had suboptimal responses following SG. Additionally, differences in outcomes among different revisional surgery types (Re-SG, One Anastomosis Gastric Bypass [OAGB], and Roux-Y Gastric Bypass [RYGB]) were analyzed.

Methods:
Data from a cohort of 69 patients who underwent revisional bariatric surgery post-SG at our center between November 2018 and March 2023 were analyzed. Of these, 21 patients underwent Re-SG, 12 patients had RYGB, and 34 patients received OAGB. Two patients who underwent OAGB followed by RYGB due to dumping syndrome and GERD were excluded. Re-SG is typically performed when an enlarged gastric pouch is observed. Patient demographics, pre-operative comorbidities, surgical outcomes, and post-operative follow-up data were collected and analyzed.

Results:
The mean BMI reduction one-year post-revision surgery was 9.22 for Re-SG, 9.30 for OAGB, and 16.30 for RYGB. Although ANOVA did not reveal a statistically significant difference in BMI reduction across groups ($p = 0.194$), each surgery type demonstrated varying degrees of BMI reduction. Notably, RYGB showed the highest mean reduction. Furthermore, complications such as GERD, dysphagia, and malnutrition were observed across all groups, albeit with some variations, with no mortalities noted in any group. Improvements in comorbidities including type 2 diabetes mellitus, hypertension, and obstructive sleep apnea were noted post-surgery, with varying degrees among the surgical groups.

Conclusion:
While Re-SG, OAGB, and RYGB are effective in improving comorbidities associated with obesity, RYGB appears to result in a higher mean BMI reduction compared to Re-SG and OAGB. Moreover, revisional bariatric surgery demonstrates a favourable safety profile, with manageable complications. However, further research is warranted to validate these findings.

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Revisional surgery after Roux-en-Y gastric bypass for recurrent weight gain or suboptimal weight loss – an MBSAQIP analysis

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Background:
Recurrent weight gain (WR) or suboptimal weight loss (SWL) following Roux-en-Y gastric bypass (RYGB) occurs in approximately 10-20% of patients. There are several surgical options for management of SWL or WR after RYGB. However, data regarding the optimal revisional technique is limited.

Objectives:
To compare 30-day post-operative outcomes between revisional surgeries for SWL or WR after RYGB

Methods:
Patients who underwent surgical revision or conversion of RYGB for WR or SWL were identified using the 2020 and 2021 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) databases. Revisional techniques included RYGB revision, adjustable gastric banding over RYGB (LGB), and conversion to sleeve gastrectomy (SG) or biliopancreatic diversion with or without duodenal switch (BPD). Univariate analysis and multivariate logistic regression were used to evaluate the association between revisional technique and post-operative outcomes.

Results:
A total of 3300 patients were analyzed. RYGB revision was the most performed technique (82.8% RYGB, 8.7% BPD, 4.7% SG, 3.8% LGB). WR was the more common indication for revision overall (WR 73.7% vs SWL 26.3%). LGB was associated with shorter operative time and length of stay relative to other procedures ($p<0.001$). Patients undergoing BPD and SG experienced higher rates of anastomotic or staple line leaks (BPD: OR=7.1, $p<0.001$; SG: OR= 10.6, $p<0.001$), organ-space surgical site infection (BPD: OR=4.7, $p<0.001$; SG: OR=4.5, $p<0.001$), pneumonia (BPD: OR=8.1, $p<0.00$: SG: OR 5.6, $p=0.031$), sepsis (BPD: OR=10.7, $p<0.001$: SG: OR=5.4, $p=0.016$), reoperation (BPD: OR=2.5, $p<0.001$; SG: OR= 2.5, $p=0.012$) and readmission (BPD: OR= 2.9, $p<0.001$; SG: OR=2.7, $p<0.001$). BPD patients were more likely to present to the emergency department (ED) post-operatively (OR=1.9, $p=0.002$). LGB patients were less likely to have any intra-operative or post-operative occurrence (OR=0.1, $p=0.045$) and had similar rates of reoperation ($p=0.206$), readmission (0.082), and ED visits (0.980) compared to RYGB revision patients.

Conclusion:
RYGB revision was the most commonly performed revisional technique. Patients who underwent BPD and SG were significantly more likely to experience 30-day complications, reoperation, and readmission. Compared to RYGB revision, LGB was associated with fewer adverse events, shorter operative time, and LOS and similar rates of reoperation, readmission, and ED visits.

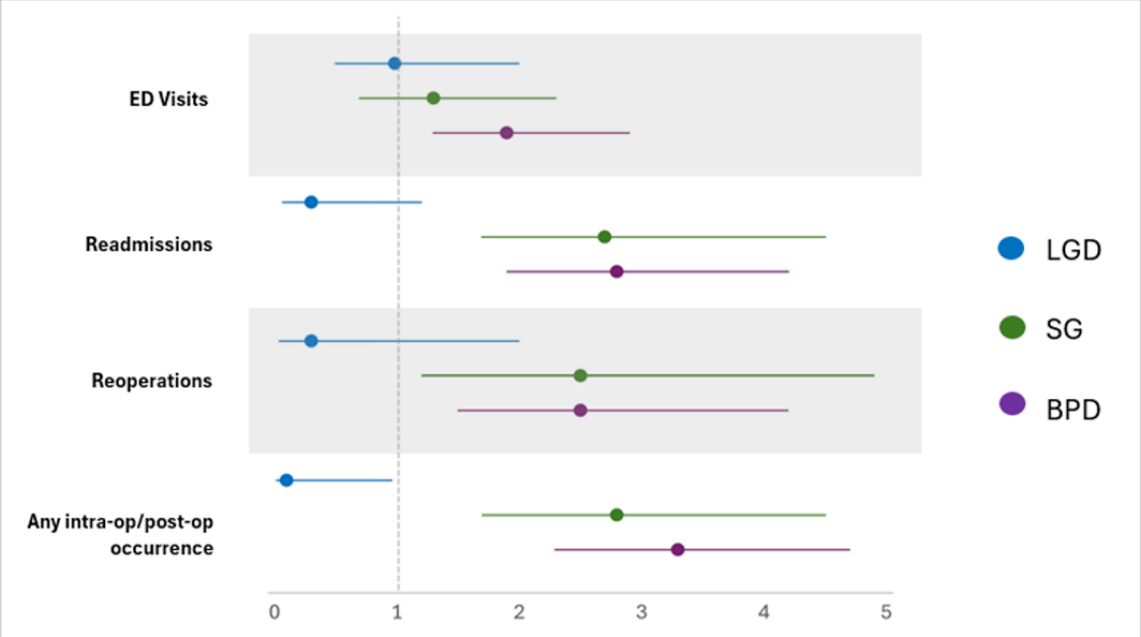

Figure 1. Adjusted odds ratio of post-operative outcomes for conversion techniques vs reference (RYGB revision); LGB=adjustable gastric banding over RYGB; SG=sleeve gastrectomy; BPD=biliopancreatic diversion +/- duodenal switch

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Revisional surgery for malnutrition following SADI-S: laparoscopic common channel elongation as a secure treatment option— a case series study

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Background:
The global acceptance of single anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) is increasing, necessitating more revisional surgeries to address complications related to excessive hypoabsorption. However, there is a lack of established guidelines for optimal SADI-S revision.

Objectives:
This study aims to share insights from our institutional experience in managing hypoabsorption post SADI-S through a detailed analysis of revisional surgery cases.

Methods:
A retrospective review of revisional surgeries post SADI-S for hypoabsorption from June 2017 to August 2022 included eight patients. Seven patients underwent elongation of the common channel (ECC) by 100 to 350 cm proximal to the previous duodeno-ileostomy. One patient had a complete duodeno-ileostomy reversal with duodeno-duodenostomy creation.

Results:
Pre-operative BMI averaged 27.9 kg/m² (19.3-35 kg/m²). Following revisional surgery, the mean BMI increased to 31.9 kg/m² (23.7–40.8 kg/m²), with an average total recurrent weight gain of 13.6% observed at the last follow-up. The mean hospital stay was 1 day. The mean albumin level before surgery was 25 g/L (21-30 g/L) and at the last follow-up after surgery, it was 38.8 g/L (36-41 g/L). All surgeries were performed laparoscopically, and no mortality was noted. Hypoabsorptive symptoms resolved in all patients, accompanied by a reduction in average daily bowel movements from 10.9 to 0.3. Major complications included a duodeno-jejunal anastomotic leak that required percutaneous drainage in one patient and a DVT in another patient.

Conclusion:
The SADI-S procedure is gaining popularity in the field of bariatrics; however, malnutrition may occur in a small percentage of patients. When medical management fails, surgical revision may become necessary. Elongating the common channel appears to be a safe and effective solution. Patients should be informed about the potential side effects of recurrent weight gain.

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Robotic vs. laparoscopic one-anastomosis gastric bypass: a three-year follow-up study

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Background:
One-Anastomosis Gastric Bypass (OAGB) offers a minimally invasive approach for weight loss surgery with all procedures performed in the supra-colic compartment, making it technically suitable for robotic surgery. This study compares the outcomes of robotic versus laparoscopic OAGB procedures over a three-year follow-up period.

Methods:
242 consecutive OAGB procedures were studied, including 185 laparoscopic and 57 robotic surgeries. Patient demographics, operative time, complications, hospital stay, weight loss, and quality of life were assessed.

Results:
Both groups were similar in terms of age, gender, BMI, and co-morbidities. Operative time was significantly longer for robotic surgeries (63.7 minutes vs. 29.9 minutes) but hospital stay was shorter (2.98 days vs. 3.89 days). One early and one late mortality occurred in the laparoscopic group, with none in the robotic group. Both groups achieved similar resolution of co-morbidities and total weight loss (TWL). Quality of life improvements were also comparable. Operating room costs were double for robotic procedures.

Conclusion:
Robotic OAGB appears to be a safe and effective alternative to laparoscopic OAGB, with similar long-term weight loss and quality of life improvements. However, longer operating times and higher costs necessitate further investigation through larger, prospective studies.

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SADI-S versus LSG in the treatment of severe obesity and severe obstructive sleep apnea (OSA): a one-year retrospective study

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Objective:
To study the of the safety and one-year efficacy of single-anastomosis duodenoileal bypass with sleeve gastrectomy (SADI-S) and laparoscopic sleeve gastrectomy (LSG) in the treatment of patients with severe obesity and severe obstructive sleep apnea(OSA).

Methods:
A retrospective study was performed to identify patients with severe obesity and severe OSA who underwent SADI-S or LSG between January 2020 and December 2022 in our institution. Surgical Indication were based on the guideline of Chinese Society of Metabolic and Bariatric Surgery. Patients were divided into two groups according to different surgical methods (SADI-S group vs LSG group). Data about surgical safety, OSA remission, effectiveness of weight loss, and improvement of co-morbidities were collected and analyzed between the two groups before and 12 months after surgery.

Results:
A total of 203 patients were included in this study (SADI-S group, n=77 vs LSG group, n=124). There was no significant difference in surgical safety between the two groups, while both OSA and weight loss were significantly improved after 12 months postoperative follow-up. The mean apnea-hypopnea index (AHI) decreased from 62.4±22.1/h to 14.2±6.2/h in the SADI-S group (P<0.001) and from 65.7±28.2/h to 21.2±7.1/h in the LSG group (P <0.001). There is a significant difference in the decrease in AHI values between the two groups (P=0.023). Meanwhile, the mean total excess weight loss (%TWL) was 31.96±11.6% in the SADI-S group and 25.47±9.98% in the LSG group (P<0.001). The incidence of anemia and serum iron deficiency in the SADI-S group was higher than that in the LSG group after one year of surgery.

Conclusion:
Both SADI-S and LSG can effectively treat severe obesity with severe OSA. SADI-S is more effective than LSG in treating obesity with OSA. Concern for the incidence of malnutrition complications is at the core of our follow-up survey.

Keywords: Single anastomosis duodenoileal bypass combined with sleeve gastrectomy, Laparoscopic sleeve gastrectomy, Obesity, Obstructive sleep apnea.

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Safety and effectiveness of conversion from adjustable gastric band to banded Roux-en-Y gastric bypass

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Background:
The Laparoscopic Adjustable Gastric Band (LAGB) has shown long-term results with a failure rate of 20 – 56% with an accompanying removal rate of 10 – 50% due to suboptimal weight loss or complications. The most common reasons for failure are due to pouch dilatation or slippage of the band. The LAGB can be converted to Sleeve Gastrectomy (SG), Roux-en-Y Gastric Bypass (RYGB) or Biliopancreatic diversion with duodenal switch (BPD/DS). The conversion to RYGB is proven to be a safe option. However, current literature contains no studies which use the placement of a ring (Gastric pouch ring) around the pouch. Therefore, this study aims to evaluate the safety and effectiveness of banded RYGB (BRYGB) after LAGB

Methods:
All LAGB to BRYGB conversions performed between January 2016 and October 2023 were included. The primary outcome was % total weight loss (%TWL) after 1-year follow-up. Secondary outcomes consisted of %TWL after 3 and 5 years, cumulative %TWL, and early and late complications according to the Clavien-Dindo classification. Furthermore, the subgroup with an adjustable banded gastric bypass and the group with a BRYGB with Gastric pouch ring will be compared.

Results:
We included 303 patients of whom 246 were female (81.2%). Mean pre-conversion BMI was 39.9 kg/m2. The LAGB was converted to an adjustable banded RYGB in 60 patients, while the remaining 243 patients underwent conversion to BRYGB with Gastric pouch ring. The 1-year follow-up point is reached by 275 (90.8%) of the patients. The rresults show an additional mean TWL after 1-year of 33.4% while mean cumulative TWL, calculated from before the LAGB, was 40%.

Conclusion:
The (adjustable) banded RYGB is a valid conversion method after Laparoscopic Adjustable Gastric Band with significant additional weight loss after 1-year. Comparison of the adjustable band and the Gastric pouch ring would be of interest to give a definitive advice for the best procedure.

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Safety and efficacy of metabolic surgery in recurrent hypertriglyceridemia-induced acute pancreatitis

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Background
Obesity not only predisposes individuals to primary hypertriglyceridemia-induced acute pancreatitis (HTG-AP) but also escalates the risk for its secondary form. This study aims to assess the long-term effectiveness and safety of metabolic surgery for treating recurrent HTG-AP.

Methods
We selected 51 patients diagnosed with obesity and concurrent HTG-AP from January 1, 2015, to August 31, 2019, at our hospital. Among them, 14 patients were treated with Laparoscopic Sleeve Gastrectomy (LSG), 9 patients received Laparoscopic Roux-en-Y Gastric Bypass (LRYGB), and the remaining 28 were treated with conservative treatment (including dietary therapy, pharmacological treatment, plasma exchange, etc.). The objective of this study was to investigate the long-term therapeutic effects of LRYGB, LSG, and traditional conservative treatment on recurrent HTG-AP and assess patient outcomes across different interventions.

Results
After treating the 51 patients with concurrent obesity and HTG-AP, the five-year follow-up revealed significant improvements in weight loss, lipid levels, and diabetes management in patients who underwent LSG and LRYGB compared to those receiving conservative treatment. Notably, the LSG and LRYGB groups achieved significant average weight reduction ($P<0.01$), whereas changes in the conservative treatment group were insignificant ($P>0.05$). LRYGB demonstrated superior weight loss effects compared to the LSG group. Furthermore, triglyceride and cholesterol levels substantially decreased six months post-operation in the LSG and LRYGB groups ($P<0.01$), with no significant changes observed in the conservative treatment group. Regarding safety, all groups exhibited low postoperative complication rates. Pancreatitis recurrence rates were higher in the conservative treatment group, with two cases in the LSG group, one case in the LRYGB group, and five recurrences in the conservative treatment group ($P<0.05$).

Conclusion
Compared to conservative treatment, LSG and LRYGB procedures significantly contributed to weight loss and improvement in lipid and glucose levels for patients with HTG-AP and diabetes. Over five years, LSG and LRYGB demonstrated superior outcomes in managing obesity with recurrent HTG-AP, characterized by enhanced weight management, metabolic disease control, and reduced pancreatitis recurrence rates. The results validate the enduring effectiveness and safety of metabolic surgery for recurrent HTG-AP treatment. Background Obesity not only predisposes individuals to primary hypertriglyceridemia-induced acute pancreatitis (HTG-AP) but also escalates the risk for its secondary form.

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Safety and efficacy of one anastomosis gastric bypass as a conversion procedure following laparoscopic sleeve gastrectomy for recurrent weight gain

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Background:
Although sleeve gastrectomy is the most common bariatric-metabolic surgical procedure, recurrent weight gain and suboptimal clinical response occur. Various revisional and conversional procedures have been proposed.

Objectives:
To review the safety and efficacy of conversion surgery from laparoscopic sleeve gastrectomy (LSG) to the one anastomosis gastric bypass (OAGB) following recurrent weight gain.

Methods:
This was a retrospective analysis of a prospectively collected database of patients who underwent conversional surgery from the LSG to the OAGB in a single centre. Data are reported as categorical values, mean ± SD and analysed using either parametric or non -parametric statistics. Patients were followed up by our multidisciplinary clinic.

Results:
Of the 71 patients, 89% were female (63:8 F:M) with a body weight (BW) 119.7 ± 8.4kg, and a BMI of 43.1 ± 8.4. The %EWL was 63.7 ± 29.2%, from the primary LSG at their nadir weight. The mean time between primary procedure and conversion surgery was 6.6 ± 2.2 years with a mean recurrent weight gain of 24.9 ± 16 kg or 28.1 ± 9.9% of BW. Following conversional OAGB at a median follow-up of 7 months (3-14 months, 25th to 75th percentile), BW loss was 18.4% (13.1-25.7%, 25th to 75th percentile) or 51.0% EWL (31.5-71.3%, 25th to 75th percentile). Cumulative weight loss was 31.0% (24.5-37.1%, 25th to 75th percentile) of BW from index primary procedure, or EWL of 65.1% (49.4-84.3%, 25th to 75th percentile). There were 3 patients with bile acid reflux, 3 anastomotic ulcers, 1 staple line leak, 1 anastomotic stenosis, and 5 conversions to RNYGB. The rate of complications was 11.3%. There was no mortality.

Conclusion:
OAGB is a safe and effective procedure for management of recurrent weight gain following LSG. Complications from conversion surgery are low and weight loss is substantial bringing patients back to their post LSG nadir weight.

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Safety and efficacy of sleeve gastrectomy with sleeve jejunal bypass: An advantage over other bypass procedures – Multicenter 5 year data

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Background:
Sleeve gastrectomy with sleeve jejunal(SG+SJ) bypass is a single anastomosis, sleeve plus procedure using a loop modification of transit bipartition and the single anastomosis sleeve-ileal bypass(SASI), while maintaining biliary access, and creating a functional bypass to achieve weight loss and resolution of the metabolic syndrome.

Objectives:
Evaluation of weight and type-2 diabetes(T2D) control, longevity of results up to 5 years, nutritional stability, and complications.

Methods:
This retrospective analysis of 130 patients from 3 centers, who underwent SG+SJ bypass, having follow-up of 1–5 years, using a jejunal loop anastomosis to the sleeve antrum, at 100/150/200cm distal to the duodenojejunal flexure, depending on total small bowel length[TSBL]. The mean age, preoperative body mass index(BMI) and glycated hemoglobin(HbA1c) were 42 years, 45.8 kg/m2 and 7.5% respectively, with 65.2% having T2D. The primary outcome was weight loss and remission of T2DM, and secondary outcome was its safety and nutritional stability.

Results:
Of these 130 patients, 110(98.2%) followed up at 1 year, 45 out of 58(77.6%) at 3 years, and 14 out of 25(56%) at 5 years. Operative duration was 120–180 min with an average hospital stay of 2–4 days with no postoperative problems. The mean TSBL and common channel(CC) were 793cm (range:530–1035cm) and 587cm(range:330–835) respectively. BMI was reduced from 45.8 to 28.2kg/m2, 27.4kg/m2 and 27.3kg/m2 at 1, 3 and 5 years respectively, while percentage of total weight loss (%TWL) was 37.9%, 40.7% and 40.6%, remission of diabetes seen in 98.6%, 97% and 91.7 at 5 years, with fall in HbA1c from 7.5% to 5.2%, 5% and 4.96% correspondingly. All nutritional factors remained stable, with no mortality; four patients had complications such as nausea, vomiting, diarrhea, dumping syndrome, hypoproteinemia, and hypoalbuminemia. Two patients required a partial reversal of the procedure (disconnection of the jejunal bypass while retaining the sleeve), while the rest were managed conservatively.

Conclusions:
SG+SJ was found to be safe and effective in achieving and maintaining weight loss and diabetes remission, along with nutritional stability, even at 5-years. It has the advantage of maintaining biliary access and if necessary a partial reversal can be done in a simpler manner compared to other bypass procedures.

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Safety and weight loss outcomes of Endoscopic Sleeve Gastroplasty vs Laparoscopic Sleeve Gastrectomy from a single centre

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Background:
Endoscopic sleeve gastroplasty (ESG) has been touted to be a safer alternative to laparoscopic sleeve gastrectomy (LSG) in order to achieve similar weight loss results.

Objectives:
This study looks at the outcomes of consecutive patients who elected to have either ESG or LSG in a private practice setting cared for by a multi-disciplinary team comprising a surgeon, dietitian, physiotherapist and nurse.

Methods:
Over the period 2018 - 2023, 742 patients sought weight loss treatment at our centre. After counselling and discussion, 145 patients underwent LSG and 91 selected ESG. Other bariatric interventions, anti-obesity medication therapy, combined procedures and revisions were not included in this data set. The same surgeon (fellowship trained in both advanced endoscopy and bariatric surgery and in practice for > 10 years) performed all the procedures. LSG was carried out using a 38F bougie, sparing the angle of His with minimal dissection at the diaphragmatic crura to avoid thoracic herniation and reflux post-op. ESG was performed with 4-6 “U” shaped sutures placed starting from the incisura level progressing upwards along the and sparing the fundus. Both groups received 2 weeks medical leave to recuperate after the procedure. Meal planning and progression through pre-operative low calorie diet to post-operative liquid, soft and full diet phases were managed by the same dietitian. Physical therapy was individualised for each patient by the same physiotherapist.

Results:
The initial mean age and weight (BMI) was 40 yrs, 110.6kg (39kg/m2) for the LSG group and 41 yrs, 99.2kg (37kg/m2) for the ESG group. The gender distribution was identical for both groups: 68% female. There were no post-operative complications in either group and average length of stay was 1 day. The mean absolute weight loss at 1, 3 and 6 months was 9%, 15% and 19% after LSG and 8%, 11%, and 12% after ESG. At 12 months the mean weight loss (range) was 23% (11-46) for the LSG and 15% (5-29) for the ESG cohort.

Conclusions:
Both ESG and LSG have comparable safety profiles. Weight loss is similar in the first month between cohorts but starts to diverge once patients resume normal diet.

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Sarcopenia in adult patients candidates for bariatric surgery: How frequent is it?

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Background:
Recently, the term Sarcopenic Obesity has been introduced, which implies a decrease in skeletal muscle mass with a high percentage of body fat. However, this relationship has not been fully characterized in patients candidates for bariatric surgery.

Objectives:
Describe the rates of sarcopenic obesity in patients over 45 years of age scheduled for bariatric surgery through the use of electrical impedanciometry tool for the analysis of body composition.

Methods:
A single center cross-sectional study was carried out with retrospective analysis of a prospective collection database that includes the analysis of body composition (using electrical impedanciometry) in patients of both sexes over 45 years of age who were candidates for bariatric surgery obtained during their pre-surgical assessment. Sarcopenia was determined using the Appendicular mass index (ALIM), where a value lower than 5.5 in women and 7.0 in men was diagnostic. Only Gastric sleeve, Roux-en-Y gastric bypass and One anastomosis gastric bypass were included.

Results:
A sample of 248 patients was evaluated, with an average age of 50.9 years, majority female (79%), average weight 101.5kg, with BMI of 39 kg/m2, average body fat % of 48.9%, and ALIM out of 8. Although all patients presented obesity, only 1 female patient presented sarcopenia.

Conclusion:
In this series, interestingly a low rate of sarcopenic obesity was observed, contrary to what would be expected in these age groups. The introduction of body analysis in the preoperative workout and follow-up of patients undergoing bariatric surgery seems to be an important diagnostic tool, however, larger population studies are required to evaluate the incidence and prevalence of sarcopenic obesity, since this information may open new horizons in bariatric surgery.

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SASJ as a primary or revision procedure

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Single-anastomosis sleeve jejunal (SAS-J) bypass is the modification of a single-anastomosis sleeve ileal (SASI) bypass with a short biliary limb. SAS-J bypass is reported to be a good primary bariatric procedure.

In our retrospective study showed SAS-J bypass as a revisional surgery for recurrent weight gain after laparoscopic sleeve gastrectomy (LSG), laparoscopic adjustable gastric band (LAGB), or laparoscopic gastric clip can provide good outcome.

SAS-J bypass was effective as a salvage surgery after failed restrictive bariatric procedures, but long-term follow-up is needed.

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Sequential changes in glucose metrics after metabolic-bariatric surgery using a continuous glucose monitoring system in individuals with type 2 DM

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The purpose of this study is to investigate sequential changes in glucose metrics after metabolic-bariatric surgery and differences according to surgical procedure using a CGM system in individuals with T2DM and obesity.

This retrospective study included 26 individuals with T2DM and obesity who underwent sleeve gastrectomy (SG), RYGB, and SG with loop duodenal-jejunal bypass. Intermittent scanned CGM system was applied to each participant before, immediately after and 3 months after metabolic-bariatric surgery.

Mean glucose and %time above range (>250 or 180 mg/dL) decreased immediately after surgery (159.8 ± 35.7, 111.0 ± 14.6, and 108.4 ± 22.7mg/dL, P<0.001; 24.0 ± 15.7, 2.4 ± 3.9, and 4.1 ± 5.4, P<0.001, respectively), and %time in range (%TIR; 70 to 180 mg/dL) increased after surgery (67.4 ± 22.4, 96.4 ± 4.3, and 88.0 ± 15.8, P<0.001). However, %time below range (<70 or 54 mg/dL) and low glucose events significantly increased over time (1.3 ± 4.7, 1.0 ± 2.6, and 6.6 ± 13.8mg/dL, P=0.044; 0.4 ± 0.8, 0.9 ± 2.0, and 4.2 ± 6.1, P=0.001, respectively). In contrast, glucose coefficient of variation decreased sharply immediately after surgery and then returned to baseline level 3 months after surgery (25.2 ± 5.8, 19.2 ± 4.8, and 25.7 ± 8.1, P=0.001). When analyzing the differences in CGM metrics according to the type of surgery, there was no difference between sleeve gastrectomy and bypass surgery group.

The CGM identified improvement of mean glucose and %TIR, distinct changes in glycemic variability over time, and increase of hypoglycemia after metabolic-bariatric surgery.

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Sex-specific association between serum vitamin D and health status among Chinese obesity people: a cross-sectional study

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Background:
An increasing body of evidence suggests that serum vitamin D (VD) levels are associated with metabolic indicators and body composition. However, findings remain inconsistent across different populations.

Objective:
This study aims to investigate the relationship between VD levels and health status, encompassing metabolic health and body composition, among Chinese individuals with obesity.

Methods:
Data were sourced from a cohort named Longitudinal Study of Bariatric Surgery in Western China. A linear regression model was used to explore the relationship between VD and each indicator. A consensus clustering algorithm (CCA) was used to identify the potential subtypes in male and female populations with obesity. Dose-response relationship was determined using restricted cubic spline (RCS) model.

Results:
A total of 1,535 participants were included in this study. The linear regression model revealed an inverse relationship between VD and HbA1c (β = -0.44, 95%CI: -0.77, -0.12), C-Peptide (β = -0.33, 95%CI: -0.53, -0.13), triglycerides (TG) (β = -1.50, 95%CI: -2.47, -0.53), fasting blood glucose (β = -1.07, 95%CI: -1.71, -0.42), and homeostatic model assessment for insulin resistance (β = -3.31, 95%CI: -5.62, -1.01) in male patients. VD demonstrated a negative association with TG (β = -0.30, 95%CI: -0.54, -0.07), and a positive association with high-density lipoprotein cholesterol (β = 0.07, 95%CI: 0.04, 0.11) in female patients. Furthermore, VD positively correlated with the ratio of skeletal muscle mass (SMM) to Body Fat Mass (β = 0.04, 95%CI: 0.02, 0.06) in female patients. CCA identified two clusters, named unhealthy population and relatively healthy population, in the male and female population, respectively. RCS suggested that individuals with serum VD levels exceeding 30.3 and 37.3 µmol/ml were more likely to fall into the “relatively healthy population” bracket in the male and female populations, respectively.

Conclusions:
Individuals with obesity exhibiting lower serum VD levels were associated with an unhealthy status, marked by adverse metabolic indicators and body composition. Vitamin D supplementation may ameliorate the risk of unhealthy obesity.

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Short-term complications in bariatric surgery: experience from a national high-volume center in Colombia

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ACOCIB

Background:
Outcomes in bariatric surgery are influenced by a wide array of short-term and long-term complications that have significant implications for patient well-being. Within the first 30 days after laparoscopic bariatric surgery, adverse events have been observed in 4.9% to 10% of cases, demonstrating considerable variability in both occurrence and severity. Although more complex procedures often yield better weight loss results, there is evidence suggesting an associated increase in morbidity and mortality rates. Complication rates tend to rise with patient age, with morbidity rates reaching as high, 6.5% for sleeve gastrectomy, and 9.7% for Roux-en-Y gastric bypass patients, as indicated by national population data. A comprehensive understanding of the multifaceted nature of bariatric surgery complications is essential for optimizing patient care and ensuring favourable long-term outcomes.

Objectives:
To determine the rates and types of short-term complications in patients undergoing bariatric surgery at a national high-volume centre.

Materials and Methods:
A cross-sectional study including 820 patients over a period of 2 years. Sociodemographic data, surgical and hospital information, complications, and reinterventions were collected through medical record review.

Results:
For the 820 patients, the average age was 39 years, with an average BMI of 41.8 kg/m2, and 79.8% were women (Tables 1 and 2, Figures 1 and 2). 50.5% of procedures were sleeve gastrectomy, and the rest corresponded to other procedures.
Nine patients experienced complications, corresponding to 1.1% of the sample, distributed as follows: 3 bleedings, 3 thromboembolisms, 3 strictures, with no mortalities.
Of these 9 patients, 88.9% were women, with an average age of 34.2 years. The distribution of surgeries for these patients was: sleeve gastrectomy 11.1%, 55.6% manual anastomosis bypass, and 33.3% mechanical anastomosis bypass. Bleedings and strictures were more frequent in gastric bypass, while thromboembolic events were equal for all 3 procedures. The complication rate per surgery was less than 3%.

Conclusions:
The rates of short-term complications and mortality observed in this study are consistent with those reported in the literature. However, to enhance our understanding and effectively mitigate these complications, future research should delve deeper into identifying specific risk factors associated with adverse postoperative events

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Side-to-side Magnetic Duodeno-ileostomy (MAGDI) without gastrectomy for type-2 diabetes. Early data from a prospective cohort.

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Introduction:
Linear Neodymium/Titanium thin Magnets (swallowable) were produced to fashion a side-to-side duodenal-ileal anastomosis (MAGDI) using magnetic compression and Delayed Anastomosis Technology (DAT) without enterotomy, keeping full integrity of the gastrointestinal tract. The study aimed to ascertain safety and efficacy.

Methods:
Side-to-side MAGDI was performed by swallowing the first distal 39 mm linear magnet to the ileum (250 cm from the caecum), waiting 2 hours, and confirming radiologically its left-sided jejunal position. Afterwards, duodenoscopic delivery of a proximal magnet to the duodenum was achieved quickly; magnets were aligned, using a positional device to a point at 250 cm from the ileocecal valve, with laparoscopic assistance. Petersen's defect was closed with non-absorbable sutures. This intervention has no enterotomies nor gastrectomies. After gradual compression, several weeks later, a patent anastomosis was obtained and magnets were expelled naturally.

Results:
Nine patients with Type-2 diabetes (HbA1c > 6.5%) with a mean age of 53 years, a weight of (mean+SEM) 97.6+3.9 kg, a BMI of 33.0+0.4 kg/m2, serum glycemia of 186.0+16.4mg/dL, and HbA1c of 7.8+0.4% were followed for 1 year. There was 100% successful patency with magnet pair expulsions at a mean of 24.3+1.2 days. At 12 months, the mean weight and BMI had decreased to 78.3+5.8 kg and 28.5+1.8 kg/m2. This represented a Total Weight Loss of 11.8+3.8 % and an Excess Weight Loss of 56+21%. The serum glycemia lowered to 131.4+5.5 mg/dL and HbA1c to 6.3+0.2%. 75% were very satisfied and 25% were satisfied with the procedure and overall results. Within 12 months, fifteen non-serious adverse events were noted (Clavien-Dindo: 87% Grade I and II, 13% Grade III, no Grade IV or V). No adverse events were related to the magnets themselves. There were no anastomotic hemorrhages, leaks, fistulas, infections, or deaths.

Conclusion:
The creation of an anastomosis using swallowable linear magnets to achieve side-to-side Duodeno-Ileostomy side-to-side diversion in adults with Type-2 Diabetes (and class I Obesity) appeared safe and efficacious. Further, preliminary weight loss results, and improvement in diabetes profiles, in the short term are encouraging. Longer follow-ups are needed before ultimate conclusions can be drawn.

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Simultaneous versus interval sleeve gastrectomy on patients requiring left ventricular assist devices as a bridge to heart transplantation

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Background:
Left ventricular assist devices (LVAD) are commonly utilized as a bridge to heart transplantation in patients with chronic heart failure (CHF). Most heart transplant programs exclude patients with class 2 obesity or greater - body mass index (BMI) >35kg/m2. Sleeve gastrectomy (SG) has been performed on patients with LVAD to optimize patient candidacy for transplantation.

Objectives:
Assess the safety of simultaneous SG at the time of LVAD placement.

Methods:
A single-center, retrospective cohort study was conducted on patients with CHF who underwent LVAD placement simultaneous with or followed by sleeve gastrectomy. Primary outcome was SG related early complications at 90-days postoperative defined as a composite of intraluminal gastrointestinal bleeding, extraluminal bleeding, leak of staple line, intraabdominal abscess or death. Secondary outcomes included unplanned reoperations, acute kidney injury (AKI), postoperative transfusions, length of stay (LOS), unplanned readmission, rate of transplantation, percent excess body weight loss (%EBWL) on last follow up. Outcomes were assessed using Fisher's exact test, T-test and Mann-Whitney-U test.

Results:
A total of 77 patients were included in our study, 54 underwent simultaneous SG/LVAD and 23 underwent interval SG. Patients in the simultaneous LVAD/SG group had a clinically significant lower rate of sleeve related complications at 90 days post-operative (7.4% vs 17.4%; OR=0.38 [95%CI=0.09-1.67]; p=0.23). There were 3 gastrointestinal bleeding complications in the simultaneous SG/LVAD group and 4 in the interval SG group. There was one death in the simultaneous SG/LVAD. The simultaneous SG/LVAD had a lower rate of transfusions (38.9% vs 69.6%; OR=0.28[95%CI=0.10-0.79]; p=0.02) at the expense of higher rate of AKI (72.2% vs 56.6%; OR=2.00[95%CI=0.72-5.52]; p=0.19). The rate of readmission, reoperations, transplantation, LOS and %EBWL were similar between groups. Majority of peri-operative complications were related to LVAD placement.

Conclusion:
Among patients with CHF requiring LVAD as a bridge to heart transplantation, simultaneous LVAD/SG did not increase the risk of SG related complications. This novel approach may hold promise in addressing the complex interplay between obesity, heart failure, and transplantation including simplifying management of perioperative anticoagulation. Further research and larger studies are warranted to validate these findings.

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Single centre case series of oesophagogastric malignancy following metabolic bariatric surgery - challenges, lessons learnt and recommendations

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Background:
Patients that have undergone metabolic bariatric surgery (MBS) are less likely to develop oesophagogastric malignancy (OGM), namely due to treatment of obesity. However, given MBS rates are increasing globally, post-MBS OGM is becoming more prevalent. This group of patients are challenging to manage through their entire journey - from presentation, to diagnosis and treatment.

Objectives:
Outline a single centre case series of OGM following MBS with particular focus on presentation, diagnosis and management. Identify common themes across cases to develop recommendations for guidance in the overall management of OGM following MBS.

Methods:
All MBS performed at a single centre were identified and cross checked for concurrent diagnoses of OGM. The identified cases were critically analysed by the author. Electronic records were thoroughly evaluated with review of all electronic notes. Qualitative analysis was carried out to identify common themes.

Results:
1539 MBS were performed between July 2002 and September 2022 at a single centre. Four patients developed OGM (prevalence - 0.26%). Two patients developed gastro-oesophageal junctional (GOJ) adenocarcinoma which was managed with perioperative chemotherapy and surgery. One had prior sleeve gastrectomy, the other a duodenal switch with sleeve gastrectomy. One roux-en-y gastric bypass patient developed GOJ adenicarcinoma managed with surgery alone. One loop gastric bypass (Mason) patient developed distal gastric pouch signet ring adenocarcinoma managed with surgery alone.
Quantitative analysis identified three common themes:
1) Symptoms of OGM overlap those that can develop post MBS (dysphagia, reduced appetite and weight loss).
2) Perioperative nutrition can be challenging - nutritional deficiencies and inadequate caloric intake leading to increased morbidity.
3) Surgical management is challenging - post-operative adhesions, revision of bariatric procedure to achieve appropriate oncological resection whilst ensuring adequacy of the gastrointestinal tract for postoperative nutrition.

Conclusion:
OGM after MBS is rare but presenting more frequently. A high index of suspicion should be maintained for potential cases with new onset symptoms and these should warrant urgent investigation. Perioperative nutrition should be optimised early on in the treatment process. Surgical approach should consider both oncological and nutritional outcomes to minimise morbidity and improve overall long term outcomes.

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Single Centre Retrospective Analysis of Early Marginal Ulcers after Metabolic Bariatric Procedures

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Background:
Marginal ulcers (MUs) are a possible complication after metabolic bariatric surgery (MBS). Undetected and thus untreated, this condition can result in acute perforation. Their development spans between days and years postoperatively. Early MUs (EMU) occur within the first three months after MBS, incidence rates can be as high as 15%. EMU pathophysiology is multifactorial, the associated risk factors being lifestyle- and/or comorbidity-related (e.g. smoking, diabetes mellitus, *Helicobacter pylori*, …). Furthermore, the circular gastrojejunal (GJ) anastomosis has been discussed as a possible contributing factor.

Objectives:
The aim of this study was to assess the incidence and associated risk factors of EMUs after MBS performed at our clinic. MU management and patient follow-up were also examined.

Methods:
This study was performed as a single-centre retrospective analysis of patients with EMU occurrence between January 2022 and December 2023. Basic demographics, type of surgery, GJ anastomosis technique, limb length, risk factors and 90-day postoperative outcomes were recorded. Data were calculated using IBM SPSS Statistics 29.0.

Results:
A total of 556 patients (73.56% female) underwent MBS with anastomosis construction, eighteen (3.2%) of which developed an EMU. Of these fourteen (78%) had primary Roux-en Y gastric bypass, whereas four (22%) had conversional procedures. Mean time between surgery and MU diagnosis were 54.00 ± 32.59 days. Seven patients (39%) had a history of tobacco use. A significant association with early MU development could be found in comparing type of surgery (primary vs. secondary) of the total cohort (p = 0,05; OR = 4.67, 95% CI 1.45–15.04). No significant results were obtained in the comparison of GJ technique (OR = 1.37), limb length (OR = 1.48), or smoking status (OR = 1.46). One patient presented with ulcer perforation. There were no mortalities.

Conclusion:
Our analysis of patients with EMUs shows a heterogeneous compilation of risk factors and preoperative circumstances. Secondary bariatric surgeries are known to be associated with postoperative complications, this applied to our cohort in accordance to literature. Moreover, we were able to show that the circular GJ technique is as safe as the linear one regarding MU development. Further research with a larger cohort will be needed in order to support these results.

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Single-anastomosis sleeve jejunal bypass (SASJ) delivers satisfactory weight loss outcome in short-term follow-up

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Background:
In recent years, sleeve plus (sleeve+) surgeries have emerged. Single-anastomosis sleeve ileal bypass (SASI) shows a promising weight loss outcome with preservation of the access to the duodenum and no remnant stomach. However, the excellent weight loss owing to a very distal bypass comes with a trade-off of malnutrition. The effect of modifying the bypass length to the jejunum on weight loss warrants an investigation.

Objectives:
This study aimed to explore the weight loss and side effects of single-anastomosis sleeve jejunal bypass (SASJ).

Methods:
A retrospective cohort study was carried out. SASJ was conducted with a minimum 350cm common limb before the ileocecal valve and a bypass of 40% of the total small bowel length; gastro-ileal anastomosis was 3cm wide.

Results:
Between 2022 and 2023, there were a total of 384 patients with a BMI higher than 32.5 Kg/m^2 who underwent SASJ. There were 251 patients in Obesity I & II (group A), 119 in Obesity III (group B), and 14 in Obesity IV (group C). The 1-year %weight loss was 32.6% in group A, 35.2% in group B, and 34.3% in group C; group B had a significantly higher weight loss than group A in the 9th month and one year (p= 0.008 and 0.002, post-hoc Tukey in 2-way ANOVA). There was no significant difference in total bowel length, bypass length, baseline fasting glucose, HbA1c, and serum lipids. There were improvements in HbA1c, serum lipids, and liver function in the one-year follow-up compared to the baseline, but there was no difference between the groups. The preop albumin and Hgb levels were 4.6, 4.9, 4.2 and 13.9, 13.9, 14.3 in groups A, B, and C, respectively. The one-year albumin and Hgb levels were 4.2, 4.2, 3.9, and 12.3, 12.2, and 12.0, respectively. We experience only one transient hypoalbuminemia (2.5 g/dL) in the 9th month and return to above 3 g/dL in a one-year follow-up.

Conclusion:
SASJ with a minimum of 350cm and bypass of 40% bowel length provides satisfactory weight loss in different classes of obesity without increasing the risk of malnutrition

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Single-anastomosis sleeve jejunal bypass (SASJ) outperforms sleeve gastrectomy in intermediate term follow-up

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Background:
Bariatric surgery has been considered the most effective approach for treating severe obesity, and laparoscopic sleeve gastrectomy (LSG) has been one of the most popular choices because of the relatively simple and standardised procedure. However, after years of follow-up, several complications from LSG require additional surgeries to salvage. Taking advantage of sleeve gastrectomy, single-anastomosis sleeve jejunal bypass (SASJ), a sleeve-plus surgery, has quickly raised in numbers.

Objectives:
Our study aimed to identify the difference between SASJ and LSG.

Methods:
It was a retrospective cohort study. Patients received either LSG or SASJ upon the agreement between the surgeons recommendation and patients preference. We collected the variables and outcomes of these two types of surgeries. The data was analysed using SPSS and Graphpad.

Results:
Between 2022 and 2023, there were a total of 813 patients with a BMI higher than 32.5 Kg/m2 included in this investigation. 47.2% (n=384) received SASJ, and 52.8% (n=429) underwent LSG. Females were predominant in both groups (SASJ: 66.1%; LSG: 58.5%). The mean ages were 36.7 years in SASJ and 34.5 in LSG. The preoperative BMI was 39.0 in SASJ and 38.2 in LSG (p =0.002). The total bowel length was 674.8 ± 112.4 cm, and the bypass (biliopancreatic) limb length was 270.4 ± 64.4 cm in SASJ. The 30-day re-admission/re-operation rates were 1.3%/0.5% for SASJ and 1.4%/0.5% for LSG. The 6-month, 1-year, 1.5-year, and 2-year % weight loss (%WL) of SASJ were 27.8%, 34.0%, 34.7%, and 32.0%; for LSG were 26.7%, 31.3%, 33.3% and 31.4% (two-way ANOVA p =0.03, post-hoc analysis showed SASJ had significantly more %WL at postop 1-year). SASJ group had a significantly higher preoperative serum fasting glucose (105.5 vs 99.5 mg/dL, p= 0.008) and HbA1c (6.3% vs 5.9%) but ended with no significant difference in the 2-year follow-up. SASJ group showed a significantly better improvement in cholesterol and triglyceride after one year of follow-up.

Conclusion:
In conclusion, in a 1.5- to 2-year follow-up, SASJ outperformed LSG in terms of weight loss, glucose, and lipid control. Further validation of the superiority in longer follow-up is intriguing.

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Single-anastomosis sleeve jejunal bypass (SASJ) shows a non-inferior result to one-anastomosis gastric bypass in two years

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Background:
Single-anastomosis sleeve jejunal bypass (SASJ) is an emerging bariatric surgery worldwide. Laparoscopic sleeve gastrectomy (LSG) has been a dominant surgery in this field for the past couple of decades. However, the need of a second surgery of LSG is relatively high. SASJ is an alteration of LSG by adding a bypass component. Where we could position SASJ among other bariatric surgeries is still under investigation.

Objectives:
The purpose of this study was to compare SASJ to a well-established procedure, OAGB (one-anastomosis gastric bypass).

Methods:
This was a retrospective single-centre study. The type of surgeries the patients received was based on the surgeon's suggestion and the patient's will. Preoperative, perioperative, and postoperative parameters were reviewed and analysed.

Results:
In 2022 and 2023, there were 734 patients with BMI higher than 32.5 Kg/m^2 included in this retrospective study. Amongst them, 384 (52.3%) patients received SASJ and 350 (47.7%) patients had OAGB. The female percentage was 66.1% and 52.9% in SASJ and OAGB, respectively. The mean ages were 36.7 years in SASJ and 37.9 in OAGB. The preoperative BMI was 39.0 in SASJ and 41.5 in OAGB ($p < 0.001$). The total bowel length was 674.8 ± 112.4 cm and 707.5 ± 123.2 cm, and the bypass (biliopancreatic) limb length was 270.4 ± 64.4 cm and 225.3 ± 59.5 cm of SASJ and OAGB, respectively. The 30-day re-admission rates were 1.3% for SASJ and 1.1% for OAGB. The 6-month, 1-year, 1.5-year, and 2-year % weight loss (%WL) of SASJ were 27.8%, 34.0%, 34.7%, and 32.0%; for OAGB were 26.9%, 33.7%, 36.3% and 36.5% ($p = 0.8$). There was no significant difference in two-way ANOVA analysis. OAGB group started with a significantly higher HbA1c (6.7% vs 6.3%, $p < 0.001$), but there was no significant difference in the 1.5-year HbA1c (5.2% vs 5.5%). There were no significant differences in the 1.5-year albumin and haemoglobin levels between SASJ and OAGB.

Conclusion:
In conclusion, in short—and intermediate-term analysis, SASJ demonstrated a non-inferior weight loss effect and maintained protein and hemoglobin levels compared to OAGB. Longer follow-up is warranted for the long-term effect of SASJ.

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Single-anastomosis sleeve jejunal: a mid-term follow-up report of a new surgical technique

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Introduction:
Single anastomosis sleeve ileal bypass (SASI) is a combined bariatric metabolic technique, in which few studies have shown its outcomes efficacy. However, this technique has a high risk of malnutrition due to long biliopancreatic limb. Single anastomosis sleeve jejunal bypass (SASJ) has a shorter limb. Therefore, it seems to have a lower risk of nutrient deficiency. Furthermore, this technique is relatively new, and little is known about the efficacy and safety of SASJ. We aim to report our mid-term follow-up of SASJ from a high-volume center for bariatric metabolic surgery in the Middle East region.

Methods:
For the current study, the 18-month follow-up data of 43 patients with severe obesity who underwent SASJ was collected. The primary outcome measures were demographic data, weight change variables according to ideal body mass index (BMI) of 25 kg/m 2 at 6, 12, and 18 months, laboratory assessments, remission of obesity-associated medical problems, and other potential bariatric metabolic complications after the surgery.

Results:
No patient was lost due to follow-up. After 18 months, patients lost2 43.4 ± 11 kg of their weight and 68 ± 14% of their excess weight, and their BMI decreased from 44.9 ± 4.7 to 28.6 ± 3.8 kg/m ($p < 0.001$). The percentage of total weight loss till 18 months was 36.3%. The T2D remission rate at 18 months was 100%. Patients neither faced deficiency in significant markers for nutrition state nor represented major bariatric metabolic surgery complications.

Conclusion:
SASJ bypass achieved satisfactory weight loss and remissions in obesity-associated medical problems within 18 months after surgery without major complications and malnutrition.

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Spectral CT analysis of adipose tissue area for predicting long-term remission of type 2 diabetes after metabolic bariatric surgery

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Background:
Several studies have demonstrated that subcutaneous adipose tissue (SAT) and visceral adipose tissue (VAT) are strongly associated with the development of type 2 diabetes mellitus (T2DM) in patients with obesity, but there is still a lack of research on its relationship with long-term remission of T2DM after metabolic bariatric surgery (MBS).

Objectives:
To investigate the relationship between preoperative SAT and VAT areas and long-term remission of T2DM after MBS.

Methods:
We retrospectively collected preoperative and 5-year postoperative follow-up data from patients with obesity and used CT measurement techniques (sliceOmatic, version 5.0) to obtain preoperative SAT and VAT areas at the umbilical level, which were correlated with remission of T2DM at 5 years postoperatively in univariate regression analysis, and those indicators that were significant in the univariate regression analysis were included in the multivariate regression analysis.

Results:
A total of 192 patients were enrolled in our study. The mean body mass index (BMI) was 40.60 (±8.81) kg/m2, and the percentage of total weight loss (%TWL) was 28.88 (±10.26)%. The 5-year postoperative complete and partial remission rates of T2DM were 42.2% and 32.8%, respectively. univariate regression analysis showed that age (OR=0.86, 95% CI: 0.83-0.90, p<0.001), BMI (OR=1.17, 95% CI: 1.10-1.25, p<0.001), duration of T2DM (OR=0.76, 95% CI:0.70-0.83, p<0.001), insulin use (OR=0.30, 95% CI:0.15-0.58, p<0.001), SAT area (OR=1.42, 95% CI: 1.14- 1.77, p=0.002), and VAT area (OR=0.21, 95% CI: 0.12-0.38, p<0.001) were predictors of long-term remission of T2DM after MBS. Multivariate regression analysis showed that age (OR=0.90, 95% CI: 0.85-0.96, p=0.001), BMI (OR=1.19, 95% CI: 1.08-1.33, p<0.001), duration of T2DM (OR=0.87, 95% CI:0.77-0.99, p<0.05), SAT area (OR=1.54, 95% CI: 1.01-2.35, p<0.05), and VAT area (OR=0.19, 95% CI: 0.07-0.53, p=0.001) were independent risk factors predicting long-term remission of T2DM after MBS.

Conclusion:
CT-measured adipose tissue area in patients with obesity combined with T2DM was significantly correlated with long-term remission of T2DM after MBS; SAT and VAT area were an independent risk factors predicting long-term remission of T2DM after MBS.

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Study on the role of gastric-derived GLP-1 deficiency in obesity-induced appetite dysregulation

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Background:
Recent studies have identified the presence of GLP-1 positive cells in the stomach, marking it as a novel organ for GLP-1 secretion. Following intragastric glucose injection, GLP-1 can be detected in the gastric veins, rapidly reaching the portal vein. Additionally, evidence suggests that the knockout of intestinal GLP-1 does not impact appetite, indicating that gastric-derived GLP-1 may play a role in appetite regulation.

Objective:
To explore whether gastric-derived GLP-1 is involved in the modulation of appetite and its potential role in weight reduction.

Methods:
Patients scheduled for metabolic bariatric surgery at our center were divided into mild-to-moderate and severe obesity groups. Appetite was initially assessed using the Adult Eating Behaviour Questionnaire (AEBQ) and daily caloric intake. Immunohistochemical staining (IHC) was then employed to quantify GLP-1 positive cells in surgically removed gastric tissue samples. A rat model of reduced gastric GLP-1 expression was created using shRNA targeting GLP-1 expression packaged in lentivirus, compared against a control group injected with blank shRNA. Changes in feeding behaviour and the expression of appetite-related factors in the hypothalamus (cart, pomc, npy, and agrp) were monitored post-injection.

Result:
IHC results showed that compared to the normal, the number of GLP-1 positive cells in the gastric mucosa of patients with mild-to-moderate obesity decreased by 52.29%, and in the severe obesity group, it decreased by 66.32%, suggesting a negative correlation between GLP-1 positive cell count and body weight. Appetite assessments through the AEBQ and daily caloric intake indicated that the scores for food approach traits increased by 50.00% and the scores for food avoidance traits decreased by 28.13% in the mild-to-moderate obesity group. This effect was more pronounced in the severe obesity group. The GLP-1 deficiency model confirmed a significant reduction in GLP-1 positive cells in the gastric mucosa. Post-injection monitoring showed an increase in food intake and faster gastric emptying in the experimental group compared to controls. qPCR analysis indicated a significant increase in the expression of the appetite-stimulating factor Cart in the hypothalamus.

Conclusion:
The results indicate a reduction in gastric-derived GLP-1 in the obesity state, which is potentially associated with increased appetite.

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Surgical outcomes in patients affected by diabetes undergoing OAGB: A historical cohort study.

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Introduction:
The mid-term results of people with diabetes in One Anastomosis Gastric Bypass (OAGB), precisely the quality of life (QOL) parameters, have not been addressed sufficiently. A better understanding of the effect of OAGB outcomes on diabetes can play an essential role in selecting the appropriate bariatric surgery for patients. Our study aimed to examine the mid-term diabetes-associated outcome of OAGB, including the effect on QOL.

Materials and Methods:
This is a retrospective cohort study of patients affected by diabetes who underwent OAGB at Soroka University Medical Center, Israel, between 2015 and 2022. Demographics, BMI, and comorbidities were extracted from the national medical records system. Follow-up quality of life (QOL) and weight parameters were supplemented via telephone questionnaires using the Bariatric Analysis and Reporting Outcome System (BAROS).

Results:
Of 581 patients operated on during that period, a total of 79 patients were affected by diabetes. Of those, 56 were included in the final data analysis, with both BAROS and ED-Q 5 questionnaires answered fully. Of these, 17 (30.4%) were males. The mean age of our patients was 46.5 (±13.1) at surgery. The mean pre-op BMI was 42.2 (±7.2), and the mean post-op BMI was 28.5 (±5.2), with a significant difference between these two ($p<0.001$). The mean pre-op HbA1c was 6.81% (±1.52), while the post-op HbA1c was now 5.3 (±0.8), a difference that was also significant ($p<0.001$). Basic demographics showed no significant post-surgery differences between males and females and no difference for basic demographics variables.

Discussion and summary:
OAGB surgery results in good outcomes for patients affected by diabetes as measured by the BAROS, reduction in BMI, and change in HbA1c. We found no gender differences in these results. We believe OAGB could be a good solution for patients suffering from obesity and its' severe comorbidity – diabetes. These outcomes should be considered in optimizing patient selection and preoperative counselling of patients affected by diabetes.

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Technical variations and considerations around OAGB in IFSO-APC and IFSO-MENAC chapter

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Objective:
This study aimed to evaluate the technical variations of One Anastomosis Gastric Bypass (OAGB) among IFSO-APC and MENAC experts.

Background:
The multitude of technical variations and patient selection challenges among metabolic and bariatric surgeons worldwide necessitates a heightened awareness of these issues. Understanding different perspectives and viewpoints can empower surgeons performing OAGB to adapt their techniques, leading to improved outcomes and reduced complications.

Methods:
The scientific team of IFSO-APC, consisting of skilled bariatric and metabolic surgeons specializing in OAGB, conducted a confidential online survey. The survey aimed to assess technical variations and considerations related to OAGB within the IFSO-APC and IFSO-MENAC chapters. A total of 85 OAGB experts participated in the survey, providing their responses through a 35-question online format. The survey took place from January 1, 2024, to February 15, 2024.

Results:
Most experts do not perform OAGB for children and adolescents younger than 18 years. Most experts create the gastric pouch over a 36-40 Fr bougie and prefer to create a gastrojejunostomy, at the posterior wall of the gastric pouch. An anti-reflux suture during OAGB is performed in all patients by 51.8% of experts. Most experts set a common limb length of >4m in revisional and conversional OAGB to prevent nutritional complications.

Conclusion:
The ongoing debate among metabolic and bariatric surgeons regarding the technical variations and patient selection in OAGB remains a significant point of discussion. This survey demonstrated the variations in technical aspects and patient selection for OAGB among MBS surgeons in the IFSO-APC and IFSO-MENAC chapters. Standardizing the OAGB technique is crucial to ensure optimal safety and efficacy in this procedure.

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Telehealth care for patients undergoing laparoscopic sleeve gastrectomy

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Background:
There are a number of barriers to patients with obesity accessing bariatric surgery. Among these, in the Australian setting, is geographical isolation to multidisciplinary bariatric surgical care. During the COVID-19 pandemic, a telehealth based bariatric surgery clinic was established.

Objectives:
To audit surgical and weight loss outcomes and patient compliance at one year post laparoscopic sleeve gastrectomy in patients attending a telehealth multidisciplinary bariatric surgical service.

Methods:
Anthropometric and comorbidity data was recorded prospectively. Complications were recorded in the Upper GI audit database.

Preoperative and post-operative consultations with the bariatric surgeon, dietitian and bariatric physician were carried out by telehealth.

Weight loss and patient compliance with micronutrient supplementation were recorded prospectively.

Results:
Over a four-month period, 58 consecutive patients underwent laparoscopic sleeve gastrectomy. The median age was 42 years (range 20-65), and 95% of the cohort were females. The median weight was 114.5kg (range 87-165kg), and the median BMI was 40 (range 35-55). Twelve month follow-up was available for 51 patients (88%). There were no perioperative complications. There were no unplanned hospital readmissions relating to their surgery during the twelve months post procedure. The median weight loss was 38kg (range 6-78kg), and the median change in BMI was 14 (range 2-28). 76% (39/51) of patients had been compliant with micronutrient supplementation. Of the seven patients requiring medication for hypertension preoperatively, six discontinued and one decreased dosage. One patient requiring diabetic medication was able to cease treatment post-operatively. All patients reported satisfaction with surgical outcomes and telehealth care.

Conclusion:
Surgical outcomes and weight loss were satisfactory at short term follow-up. Patient compliance with micronutrient supplementation was sub-optimal. Longer term clinical and compliance data are required in order to comprehensively evaluate outcomes following a telehealth multidisciplinary model.

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Ten-year results of a randomized trial comparing banded Roux-en-Y gastric bypass to sleeve gastrectomy for type 2 diabetes and weight loss

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Background:
Laparoscopic Roux-en-Y gastric bypass (LRYGB) and laparoscopic sleeve gastrectomy (LSG) are common bariatric procedures that are effective in treating type 2 diabetes (T2D) in patients with obesity. Five and seven-year results from a prospective, randomized, parallel, two-arm, clinical trial at North Shore Hospital (Auckland, New Zealand) found that SR-LRYGB was superior to LSG for diabetes remission and weight loss following surgery, with acceptable complication rates.

Objectives:
We conducted a 10-year analysis of patients enrolled in a randomised controlled trial at a single centre to identify the ongoing differences in patient outcomes between silastic ring (SR) LRYGB and LSG.

Methods:
114 adults with type 2 diabetes and BMI 35-65 kg/m^2 were randomly assigned to SR-LRYGB or LSG (1:1; stratified by age-group, BMI group, ethnicity, diabetes duration, and insulin therapy). The primary outcome was diabetes remission assessed at 10 years, defined by HbA1c <6% (42 mmol/mol) without glucose-lowering medications. Secondary outcomes included total body weight loss and complications.

Results:
A total of 114 patients were randomized of whom 10 died before the 10-year follow-up (3 SR-LRYGB, 7 LSG, CI -7.6, 23.2, p = 0.319). Diabetes remission, assessed in 62 (59.6%) of the remaining patients, was seen in 11/35 (31.4%) after SR-LRYGB and 2/27 (7.4%) after LSG (adjusted OR 5.85, 95% CI 1.15, 28.8, p=0.034). Percentage total body weight loss was greater after SR-LRYGB than LSG (27.1% vs 18.2%; absolute difference 9.0%: 95% CI 2.5%, 15.5%; p=0.008). Late minor complication rates were 26.8% after SR-LRYGB and 19% after LSG (95% CI -7.6, 23.2, p = 0.319). Late major complication rates were 25% after SR-LRYGB and 25.9% after LSG (95% CI -16.9, 15.1, p = 0.916).

Conclusion:
SR-LRYGB was superior to LSG for diabetes remission and weight loss at 10 years following surgery, with acceptable complication rates. This study adds to the growing body of evidence that confirms long-lasting improved patient outcomes LRYGB when compared directly with LSG.

Oral

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The Association Between Body Composition, Metabolic Syndrome Parameters, and Biomarkers related to Energy Expenditure after Bariatric Surgery

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Background:
Mitochondrial dysfunction is a major cause of insulin resistance and other complications associated with obesity. Two important factors in regulating energy expenditure through mitochondrial thermogenesis are PGC-1α and UCP-2. However, the effects of bariatric surgery on the levels of PGC-1α and UCP-2, as well as their relationship, are not well understood.

Objective:
This study aimed to investigate the effects of bariatric surgery on key pathways involved in energy regulation and to assess the potential predictive role of body composition and metabolic parameters in this regard.

Methods:
A prospective cohort study was performed on 45 patients with severe obesity who underwent Roux-en-Y gastric bypass surgery. The patients were evaluated at three time points: baseline, three months, and six months after the surgery. Body composition components, levels of PGC-1α, UCP-2, and metabolic parameters were measured at each time point. The study was conducted at Hazrat-e Rasool General Hospital, Center of Excellence of the International Federation for Surgery of Obesity.

Results:
Significant changes in total weight loss percentage (TWL%), excess body mass index loss percentage (EBMIL%), and metabolic lab tests were observed at three- and six-months post-surgery ($P < 0.001$). Levels of PGC-1α and UCP-2 showed a significant increase at three- and six-months post-operation compared to baseline ($P < 0.001$). Furthermore, multivariate linear regression analysis identified that the changing trend of PGC-1α was associated with insulin, uric acid, HOMA-IR, fat mass, and trunk fat mass. UCP-2 was associated with TSH, AST, fat mass, and fat-free mass.

Conclusions:
Bariatric surgery had a beneficial effect on the levels of UCP-2 and PGC-1α, as well as body composition and metabolic parameters. These findings suggest that bariatric surgery may increase thermogenesis and energy expenditure by improving mitochondrial biogenesis and function.

Oral

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The effect of meal frequency after laparoscopic sleeve gastrectomy on gastroesophageal reflux disease

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Background / Aim:
Over 600 million persons worldwide suffer from obesity, and this number has doubled since 1980. Saudi Arabia has a high obesity rate (over 35%), which increases the risk of Gastroesophageal reflux disease (GERD) and presents major health risks. One effective type of bariatric surgery that lowers mortality is laparoscopic sleeve gastroplasties (LSG). With little information on meal frequency post-LSG, GERD and postoperative eating disorders have prompted concerns.

Methods:
This study extended from 2016–2022, and it took place at a private gastroenterology clinic in the Kingdom of Saudi Arabia (KSA). The purpose of this research was to examine how often patients in Saudi Arabia who had undergone laparoscopic sleeve gastrectomy (LSG) ate and how much that affected their symptoms of Gastroesophageal reflux disease (GERD).

Results:
Significant weight loss occurred, with patients seeing their Body Mass Index (BMI) drop from an average of 46.37 to 31.24. A number of common complaints were found during endoscopic examinations performed 1-6 years after LSG, including heartburn (76%), epigastric pain (70%), retrosternal burning (48%), nausea (33%), and vomiting (31%). Patients who consumed 1-2 meals (19.2%) and 3-4 meals (16 %) had greater rates of reflux esophagitis than those who consumed 5-6 meals (3.7%) and 1 meal (0.9 %), according to an analysis of long-term daily postoperative meals (LDPM).

Conclusion:
Even though it meets daily calorie demands, eating fewer meals each day may cause the gastric sleeve to become overfilled and increase the risk of GERD. This study recommends creating a daily routine of frequent, little meals to lower the risk of obesity.

Oral

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The effect of single-anastomosis sleeve ileal (SASI) bypass on patients with severe

obesity in three consecutive year

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Background:
Sparse data are available regarding the efficacy and safety of single anastomosis sleeve ileal (SASI) bypass surgery, where most available studies utilized short-term follow-ups.

Objectives:
This study was conducted to evaluate the safety and outcomes of this procedure in three consecutive years after the surgery.

Materials and methods:
This retrospective study was carried out with 116 patients who underwent SASI from October 2016 to September 2021. Anthropometric, clinical, and biochemical data were recorded before, 1, 2, and 3 years after surgery.

Results:
The 1, 2, and 3-year percentage of excess weight loss (%EWL) were 87.37%, 90.7%, and 80.6%, respectively. Remission or improvement was recorded for diabetes mellitus in 90.9%, hypertension in 80.0%, hyperlipidemia in 100%, sleep apnea in 100%, and irregular menstruation in 58.06 at 3 years after surgery. No mortality and 5.1% early major postoperative complications were recorded. Eight patients (6.8%) had reversal procedure due to EWL > 100%.

Conclusions:
The SASI bypass is an effective bariatric surgery that achieved sequential weight loss and improvement in medical comorbidities three years after the surgery; however, standardization of SASI procedure technique is needed to ameliorate nutritional deficiencies.

Oral

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The efficacy of conversional one anastomoses gastric bypass post sleeve gastrectomy and gastric band: a large single cohort series

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Introduction:
Conversional bariatric procedures are increasing, particularly one-anastomosis gastric bypasses (OAGB). This study reports long-term and patient-reported outcomes for conversional OAGB (cOAGB) after laparoscopic adjustable gastric banding (LAGB) and sleeve gastrectomy (SG).

Methods:
This retrospective single-cohort observational review of a prospective database examined all cOAGB cases from 2016 to 2023. Perioperative morbidity, long-term surgical or endoscopic interventions, and patient-reported outcomes were recorded.

Results:
The largest published cohort of 261 consecutive cOAGB patients were identified, 60.9% had a previous LAGB and 39.1% had a previous SG. Within 30 days, three severe and 13 low-grade complications occurred without mortality, and 258 patients (98.9%) went home the following day. Longer-term surgical interventions were performed for acid or bile reflux (18 patients, 6.9%), three port-site hernias, two perforated ulcers, and one adhesion. Endoscopy revealed 14 cases of gastroenteric anastomotic ulcer and one reflux oesophagitis, all managed conservatively.

60.9% of patients responded to the survey (mean 35.7 months after conversion), with 37.1% reporting significant heartburn and 23.9% reporting significant regurgitation. 81.8% of patients reported they were happy with the procedure, and 78% reported they would have chosen it again. Both outcomes were significantly associated with greater percentage excess weight loss (%EWL) and lower heartburn scores. Higher satisfaction was associated with less regurgitation or LAGB as the primary procedure. Patients with significant reflux post-cOAGB were statistically happy following enteroenterostomy with marked reflux improvement. Mean BMI (41.8 months after conversion) was 31.5kg/m2 (9.7kg/m2 less than before the conversion), with a mean %EWL of 64.6% (significantly higher in female patients) and mean TBWL of 22.5%.

76.4% of patients having the cOAGB for weight loss and 88.5% with the indication for reflux would have the procedure again. This demonstrates the importance of patient-directed care, as established by the relative improvement between the indications for surgery, leading to better patient-reported outcomes.

Conclusion:
cOAGB was found to be an extremely safe and relatively effective procedure for further weight loss or persistent reflux. Although these issues may not be fully resolved, the relative improvement is reflected in the strong satisfaction scores, supporting the use of this technique in conversional bariatric surgery.

Oral

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The efficacy of endoscopic botulinum toxin injection and semaglutide injection in the treatment of postoperative weight gain in patients undergoing LSG

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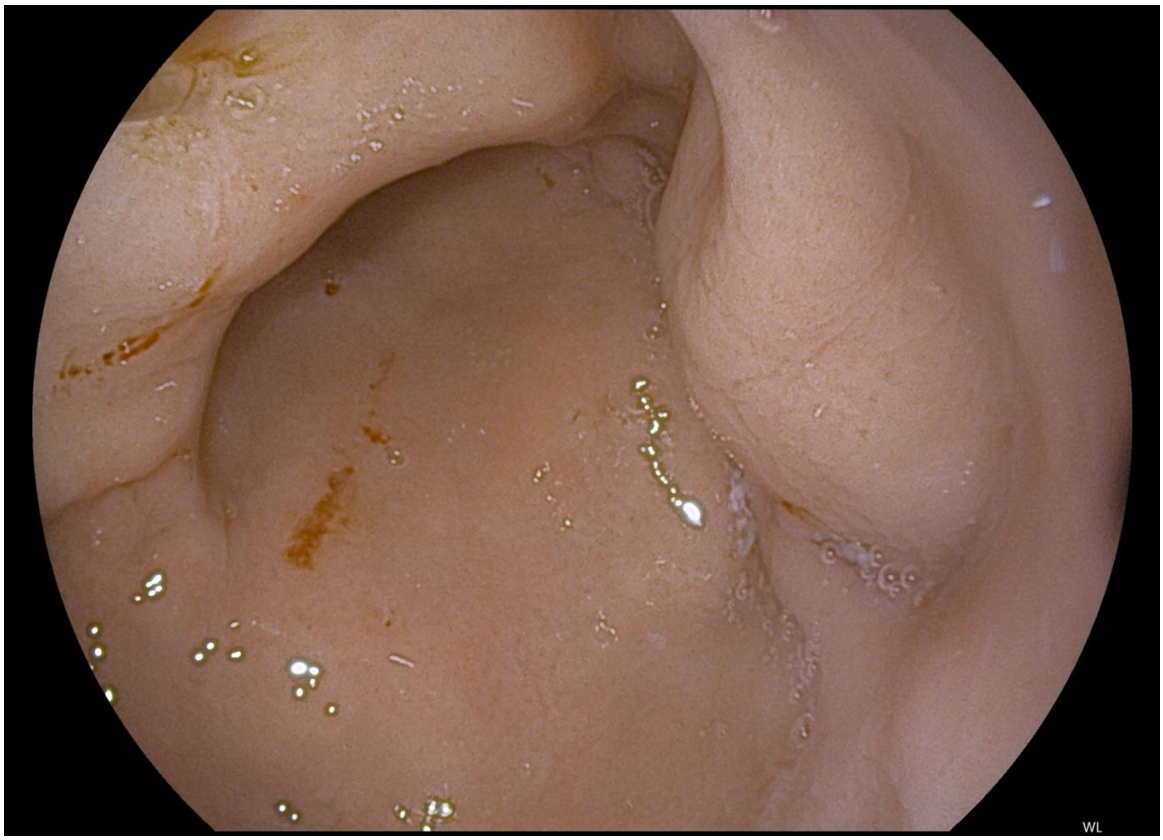
Objective:
Comparison of the therapeutic effects of endoscopic botulinum toxin injection and semaglutide injection in the treatment of postoperative weight gain in patients undergoing laparoscopic sleeve gastrectomy (LSG).

Method:
Retrospective analysis of patients who underwent endoscopic botulinum toxin injection and semaglutide injection for postoperative weight gain in our center over the past 2 years. The injection method of botulinum toxin is to dilute 300U of type A botulinum toxin (BOTOX, Allergan Pharmaceuticals Ireland) with 20ml of physiological saline. Four points are selected for injection at each of the five levels of gastric antrum, gastric body sinus junction, gastric body, gastric fundus junction, and gastric fundus, with 1ml of drug injected at each point. The application method of semaglutide injection (Novo Nordisk Pharma AG) is to start at 0.5mg once a week and increase by 0.25mg every 4 weeks until the patient can tolerate the maximum dose, with a maximum dose of ≤ 1mg qw, for a total of 6 months. Follow up time points are 2 and 6 months after treatment.

Results:
20 people in the group treated with botulinum toxin after LSG surgery (LSG+BTX group) completed follow-up, while 13 people in the group treated with semaglutide after LSG surgery (LSG+Se group) completed follow-up, respectively. The postoperative total weight loss (TWL) of LSG+BTX group, LSG+Se group at 2 months were 6.35%, and 5.46%. There was statistical difference between the groups ($P < 0.001$).The postoperative TWL of LSG+BTX group, LSG+Se group at 6 months were 5.80%, and 8.89% respectively. There was statistical difference between the groups ($P < 0.001$).The average time for endoscopic injection is 8 minutes, and there were no complications (such as intraoperative bleeding, perforation, etc.) during the treatment process.

Conclusion:
Endoscopic botulinum toxin injection can be a safe and effective treatment for postoperative weight gain in LSG. During the 2-month follow-up period, the efficacy of botulinum toxin was superior to that of semaglutide. During the 6-month follow-up period, the efficacy of botulinum toxin was inferior to that of semaglutide. The reason may be related to the gradual decrease in the efficacy of botulinum toxin during the 6 months.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Oral

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The FundoRingOAGB method compared with standard OAGB prevented bile reflux esophagitis

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Background:
The FundoRing method with fundoplication using an excluded stomach for an one anastomosis gastric bypass (OAGB) is a novel combined procedure in bariatric surgery.

Objectives:
What is the impact of fundoplication using an excluded stomach for protection of bile reflux after one anastomosis gastric bypass?

Methods:
The study design was a single-center prospective, interventional, open-label (no masking) RCT (FundoRing Trial) with 1-year follow-up. The bile reflux esophagitis was assessed endoscopically and using the bile reflux questionnaire.

Results:
One hundred patients were randomly divided into two groups: FundoRingOAGB (n = 50) vs standard OAGB (n = 50) with complete follow-up data were included in the study. There were no leaks, bleeding, or deaths in either group. The bile reflux was 0 in the FundoRingOAGB group vs 4 patients in the standard OAGB group ($p < 0.05$).

Conclusion:
The FundoRingOAGB prevented bile reflux esophagitis significantly more effectively than standard OAGB.

Oral

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The future of bariatric surgery training: remote, AI-enhanced skill development and real surgery evaluation

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Background:
With the global obesity epidemic on the rise, the demand for competent bariatric surgeons has escalated. Traditional face-to-face training in Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) faces challenges, including a long learning curve, limited access to expert tutors and the necessity for flexible training schedules. Our center has responded to these challenges by developing a remote and asynchronous program delivered via a feedback-oriented digital platform, designed to achieve proficiency in LRYGB technical skills. In addition, the ability to evaluate actual laparoscopic surgeries is currently being explored.

Objectives:
This study aims to describe a remote and asynchronous laparoscopic bariatric surgery training program implemented through a digital feedback oriented platform, enabling evaluation and expert feedback delivery. Importantly, it highlights the program's future potential to facilitate corrections in actual surgical procedures, leveraging artificial intelligence to significantly improve decision-making and precision.

Methods:
Our validated LRYGB Simulation Training was transformed into a virtual program with 26 stages, covering manual and stapled gastrojejunostomy (GJ) and jejunojejunostomy (JJO), enriched with instructional videos. Trainees submit exercise videos for expert review, focusing on skill, execution time, and anastomosis quality, including permeability and leakage. Feedback is enhanced with videos on common errors, and learning is supplemented with key literature. A final multiple-choice test on surgical techniques concludes the program.

Results:
The virtual format supports deliberate practice within a flexible, self-paced setup. Trainees interact with theory and complete technique quizzes. Video submissions and expert feedback ensure the LRYGB Program not only builds surgical skills but also suggests future real-surgery corrections, with potential AI enhancements for greater accuracy

Conclusions:
Transitioning the LRYGB Simulation Training to a remote, feedback-oriented platform significantly expands access, mitigating the skilled bariatric surgeon shortage. This innovative approach merges virtual learning and expert insights, providing a dynamic, self-paced educational setting. It anticipates future integration with AI for real-time surgical correction, enhancing precision and efficiency in global bariatric surgery training and practice.

Oral

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The impact of patient demographics on the third lumbar vertebral skeletal muscle index (L3SMI) of patients with obesity

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Background:
The third lumbar vertebral skeletal muscle index (L3SMI) is one of many indices used in the assessment of muscle mass and the presence of sarcopenia in patients but this has not been studied before in patients with obesity undergoing Metabolic Bariatric Surgery.

Objectives:
The aim of this study is to determine the effect of patient demographics, namely age, sex, ethnicity, and ASA (American Society of Anesthesiology physical status classification) on the third lumbar vertebral skeletal muscle index (L3SMI) in patients with obesity.

Methods:
Pre-operative Computed Tomography imaging was used to calculate L3SMI in patients undergoing bariatric surgery. Differences in L3SMI across various patient groups based on age, sex, ASA and ethnicity were examined.

Results:
A total of 72 patients were included in the study, of whom 84.7% were female and the median age was 47.0 (IQR: 39.3-57.5). The median BMI at surgery was 43.5 Kg/m2 (IQR: 40.8 – 48.6) and the median L3SMI was 53 cm2/m2 (IQR: 47-59). Female patients had a lower median pre-operative L3SMI than males (52 vs 56, p=0.039), as did patients with higher ASA grade (ASA 3 vs 2, 49 vs 54, p=0.028). There was no difference in L3SMI between older (>45 years) and younger patients (53 vs 52, p=0.813). There were notable ethnic differences in pre-operative L3SMI, with patients of Indian and Black origin having a lower median L3SMI (43 and 44 respectively) compared with White Caucasian patients (55, p < 0 .001).

Conclusion:
Sex, ASA grade and ethnicity have a significant impact on L3SMI in patients with obesity undergoing Metabolic Bariatric Surgery. Age was not found to affect L3SMI. Patients from Indian and Black Afro-Caribbean backgrounds have a lower L3SMI which may increase the risk of poorer post-operative outcomes.

Oral

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The impact of preoperative anemia on postoperative anemia and related nutritional abnormalities after bariatric surgery

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Background:
Obesity is a risk factor for anemia, with 10-40% incidence of anemia prior to bariatric surgery. Anemia is also a common nutritional complication after bariatric surgery, which may deteriorate patient outcomes. The impact of preoperative anemia on the risk of postoperative anemia and related nutritional abnormalities remains unclear.

Objectives:
To assess the effect of preoperative anemia on the risk of anemia and nutritional abnormalities after bariatric surgery.

Methods:
Patients who underwent bariatric surgery from 2017-2021 at a Chinese center were reviewed. All patients were followed for one year and received complete hematologic and nutritional assessment. Anemia was diagnosed according to the WHO criteria (hemoglobin: <130g/L for men and <120g/L for women). Nutritional abnormalities included ferritin deficiency, folate deficiency, Vitamin B12 deficiency, and low transferrin saturation level. Logistic regression was used to evaluate the impact of preoperative anemia on postoperative anemia and related nutritional abnormalities.

Results:
A total of 452 patients underwent sleeve gastrectomy and Roux-en-Y gastric bypass, of whom 53 (11.7%) had preoperative anemia. Patients with preoperative anemia were more likely to have postoperative anemia (69.8% vs. 34.8%, P<0.001), ferritin deficiency (77.4% vs. 41.6%, P<0.001), and low transferrin saturation levels (56.6% vs. 20.3%, P<0.001) than normal patients, whereas there was no significant difference in folate deficiency (7.5% vs. 11.3%, P=0.412) or vitamin B12 deficiency (18.9% vs. 16.3%, P=0.636). Changes in hemoglobin, ferritin, folate, and vitamin B12 levels did not differ significantly between patients with preoperative anemia and normal patients (P>0.05 for all), whereas transferrin saturation decreased more in normal patients (-0.8±14.8% vs. -0.3±16.4%, P=0.003). After fully adjusting for covariates, preoperative anemia was independently associated with anemia (OR 3.52, 95% CI 1.83-7.06, P<0.001), moderate-to-severe anemia (OR 5.03, 95% CI 2.48-10.20, P<0.001), ferritin deficiency (OR 3.77, 95% CI 1.74-8.17, P=0.001), and low transferrin saturation level (OR 4.12, 95% CI 2.16-7.84, P<0.001).

Conclusion:
Preoperative anemia significantly increases the risk of postoperative anemia and iron storage deficiency. The impact of bariatric surgery on hemoglobin and anemia-related nutrient levels was similar in patients with different anemia status. Preoperative anemia should be actively managed to prevent moderate-to-severe postoperative anemia.

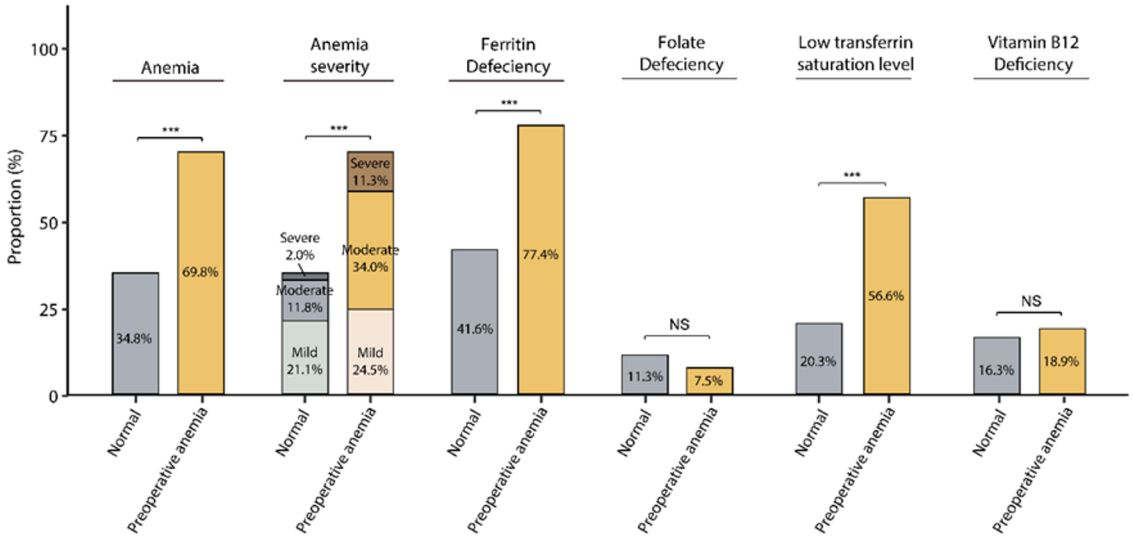

Table. Unadjusted and adjusted ORs for anemia and related abnormalities by preoperative anemia status.

	Model 1		Model 2		Model 3	
Abnormality	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P
Anemia						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	4.33 (2.36-8.25)	<0.001	3.38 (1.82-6.53)	<0.001	3.52 (1.83-7.06)	<0.001
Moderate-to-severe anemia						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	5.18 (2.81-9.54)	<0.001	4.22 (2.24-7.95)	<0.001	5.03 (2.48-10.20)	<0.001
Folate deficiency						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	0.64 (0.19-1.67)	0.415	1.00 (0.29-3.39)	0.997	1.08 (0.29-3.95)	0.909
Vitamin B12 deficiency						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	1.19 (0.57-2.50)	0.636	1.51 (0.70-3.24)	0.294	1.40 (0.60-3.28)	0.439
Ferritin deficiency						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	4.80 (2.45-9.40)	<0.001	3.43 (1.64-7.17)	0.001	3.77 (1.74-8.17)	0.001
Low transferrin saturation level						
Normal	1.00 (reference)		1.00 (reference)		1.00 (reference)	
Preoperative anemia	5.12 (2.82-9.29)	<0.001	4.03 (2.19-7.44)	<0.001	4.12 (2.16-7.84)	<0.001

Model 1: unadjusted. Model 2: adjusted for sex, age, and BMI. Model 3: adjusted for sex, age, BMI, waist circumference, hip circumference, surgical procedure, smoking history, alcohol consumption, hypertension, T2DM, hyperuricemia, hypercholesterolemia, and hypertriglyceridemia.

Oral

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The impact of sleeve gastrectomy on polycystic ovarian syndrome; a single center one year cohort study

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Background and aim:
Obesity is one of the risk factors for polycystic ovarian syndrome (PCOS), and weight loss is the mainstay of treatment. This study investigates the effects of sleeve gastrectomy on clinical and paraclinical signs and symptoms of PCOS patients referred to a tertiary hospital.

Methods:
Female patients with a definite diagnosis of PCOS and body mass index (BMI)> 40 kg/m2 who were candidates for sleeve gastrectomy were enrolled in this cohort study and followed for one year postoperatively. Clinical signs and symptoms of PCOS, sonographic examination, and laboratory hormonal assessments were assessed preoperatively and one year following surgery.

Results:
50 patients enrolled in the study. The mean age of patients was 31.69± 9.54 years. The mean BMI before and after the surgery was 44.28± 3.03 and 29.37± 2.41 kg/m2 , respectively. Oligomenorrhea was improved in 66% of patients. According to the sonographic criteria, PCOS was improved in 74% of patients. After a year post-operation, while the mean serum levels of the follicular stimulating hormone (FSH), testosterone, and dehydroepiandrostenedione have improved significantly in all patients ($p<0.001$ in all), the significant decrease in serum luteinizing hormone (LH), LH/ FSH ratio, and estrogen was only noted in patients with improved clinical response ($p<0.05$, $p<0.001$, and $p<0.001$ respectively).

Conclusion:
Weight loss and improvements in hyperandrogenism following sleeve gastrectomy result in clinical and paraclinical improvement of PCOS signs and symptoms, including oligomenorrhea and ovulation induction.

Oral

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The impact of type 2 diabetes on features and prognosis of PCOS with obesity in patients undergoing sleeve gastrectomy

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Background:
Women with type 2 diabetes mellitus (T2DM) have an increased risk of polycystic ovary syndrome (PCOS). However, evidence supporting the impact of combined T2DM on the features of PCOS in patients with obesity is lacking.

Objective:
To determine the impact of T2DM on the features of PCOS in patients with obesity, as well as the prognosis of PCOS for up to 1 year after SG.

Methods:
A subset of patients with PCOS scheduled for SG were recruited from the SGOP-01 cohort to examine the impact of comorbid T2DM on the metabolic, reproductive, and psychological features of PCOS. Besides, the preliminary follow-up outcomes were also reported as an exploratory analyses of the impact T2DM on prognosis of PCOS after SG.

Results:
We identified 114 patients with T2DM (PCOS+T2DM) and 215 without (PCOS). After controlling for confounders, patients in the PCOS+T2DM group had more severe insulin resistance and dyslipidemia. The liver tissue microarray revealed higher level of NAS score in the PCOS+T2DM group. In addition, the PCOS+T2DM group showed lower levels of total testosterone and estradiol, as well as lower proportion of polycystic ovarian morphology (PCOM) (87.76% vs. 95.97%, P=0.022). As a result, the two groups differed significantly in terms of the Rotterdam classification of PCOS (P=0.009). No significant difference was detected by group in the psychological feature of PCOS except the lower degree of emotional eating in the PCOS+T2DM group (P=0.001). Moreover, the percentage of total weight loss (32.63% vs. 33.30%) and the proportion of patients with regular menstruation (84.84% vs. 86.54%, P=0.758) was similar between the two groups at 1 year after SG, which was further confirmed by the subgroup analyses by degree of BMI. However, the Kaplan-Merier survival curves showed extended length of time after SG until the recovery of regular menstruation in the PCOS+T2DM group (P=0.037).

Conclusion:
T2DM is associated with aggravated metabolic but milder reproductive feature of PCOS in patients with obesity. The combid T2DM tended to hinder but not attenuate the resumption of regular menstruation for up to 1 year after SG. Further studies are needed for more comprehensive evaluation of the impact of T2DM.

Oral

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The influence of liver reduction diet on total body weight loss in patients with diabetes mellitus prior to bariatric surgery

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Bedfordshire Hospital NHS Foundation Trust

Background:
Obesity and type 2 diabetes often coexist, presenting a challenging clinical landscape. Bariatric surgery offers a potent intervention for severe obesity and its associated metabolic disorders, including diabetes. Preoperative optimisation, such as the Liver Reduction Diet (LRD), has become integral to enhancing surgical outcomes. LRD, characterised by a low-calorie regimen, aims to reduce liver size and hepatic fat content, facilitating surgical access. However, its specific impact on diabetes control during the preoperative period remains a subject of investigation. Understanding LRD's effects on diabetes management and weight loss outcomes is crucial for refining preoperative strategies in this high-risk population.

Objectives:
This study seeks to investigate how diabetes status and its management influence the attainment of significant Total Body Weight Loss (TBWL) among patients undergoing LRD as a preoperative intervention.

Methods:
We conducted a retrospective analysis of patients who adhered to the LRD protocol before bariatric surgery between December 1, 2019, and March 1, 2023, across two specialised bariatric surgery units.

Results:
Among the 970 patients included, 20.7% (n=201) had diabetes, predominantly male (74.6%). Median age was 49 years (IQR: 42-56), with a median BMI of 47.2 Kg/m2 (IQR: 42.9-52.1) at LRD initiation. Most patients (70.6%) were managed with oral antiglycemic medication, while 15.9% required combined oral and insulin therapy, and the remainder controlled their diabetes through dietary measures. Notably, patients affected by diabetes had a significantly higher rate of achieving ≥5% TBWL on LRD compared to patients without diabetes (21.4% vs. 13.4%, p=0.002). Additionally, patients with pre-diabetes not receiving medication showed the highest rate of achieving ≥5%TBWL (37.0%).

Conclusion:
Patients with diabetes, especially those managing their condition through dietary modifications or combined therapy, derive significant benefits from LRD in achieving ≥5% TBWL. These findings highlight LRD's potential as an effective preoperative strategy for weight loss in patients affected by diabetes undergoing bariatric surgery. Further research is needed to understand the underlying mechanisms and identify additional factors influencing weight loss outcomes in this population.

Oral

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The influence of the intestinal microbiota on the pathophysiology of non-alcoholic fatty liver disease. Study in patients with severe obesity

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Introduction:
Non-alcoholic fatty liver disease (NAFLD), closely associated with obesity, can progress from simple steatosis to non-alcoholic steatohepatitis (NASH) and even cirrhosis. An altered pattern or functionality of the intestinal microbiota has been related to the pathophysiology of NAFLD.

Objective:
To describe the composition and functionality of the intestinal microbiota in patients with severe obesity (MO) with different degrees of NAFLD evaluated by liver biopsy.

Material and Methods:
110 patients with severe obesity undergoing bariatric surgery were included and were evaluated by liver biopsy for the diagnosis of NAFLD and stool samples were collected before surgery for microbiota analysis.

Results:
Our findings showed that patients with OM and steatosis plus NASH (diagnosed by liver biopsies) were characterized by an altered microbial pattern with the increase of the family Enterobacteriaceae, the genera Acidaminococcus and Megasphaera and the depletion of the families Eggerthellaceae and Ruminococcaceae.

NAFLD was also associated with enrichment in pathways related to proteinogenic amino acid degradation and menaquinol-7 (vitamin K2) biosynthesis, succinate production, and saccharolytic and proteolytic fermentation; giving rise to harmful products such as ethanol or succinate, as possible mechanisms for the pathogenesis and progression of NAFLD.

In general, the findings found in the core microbiome related to any of the basic histological alterations showed an increase in the abundance of the family Enterobacteriaceae and a decreased abundance of Ruminococcaceae, a common core also identified in our cohort of patients with steatosis plus NASH. Escherichia coli and Escherichia-shigella were also associated with the presence of steatosis and necroinflammatory activity, and fibrosis and necroinflammatory activity, respectively.

Conclusions:
Patients with OM and NAFLD showed alterations in microbiota patterns, which could add information to non-invasive biomarkers for the diagnosis of NAFLD, and could be a new target for NAFLD.

Acknowledgments:
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The interplay between iron deficiency and gut microbiome status following bariatric-metabolic surgery: A comprehensive review

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Background:
Research indicates that Bariatric-metabolic surgery (BMS) has a positive impact on Gut Microbiome (GM) dysbiosis, potentially influencing micronutrient status. However, BMS can also induce Hypoabsorption, changes in bile acid metabolism, gastric pH alterations, and hormone secretion, leading to postsurgical anemia due to deficiencies in iron, vitamin B12, and folate. Despite this understanding, the specific impact of iron status on GM alterations following BMS remains inadequately explored.

Objectives:
This comprehensive review aims to investigate the relationship between iron deficiency and its effects on the gut microbiome following BMS.

Methods:
We conducted a systematic literature review, searching databases including Embase, Scopus, PubMed/Medline, and Google Scholar up to January 1, 2024, using key terms such as gut microbiome, obesity, bariatric surgery, nutritional deficiencies, weight reduction, anemia, and dysbiosis.

Results:
The data revealed a significant impact of iron availability on the gut microbiome. Iron fortification was found to decrease Bifidobacterium while increasing Escherichia coli levels. Iron supplementation was associated with a shift towards a more pathogenic gut profile, characterized by an unfavorable ratio of Enterobacteria to Bifidobacteria and Lactobacilli, as certain pathogens thrive on iron unlike beneficial bacteria such as Lactobacilli. Additionally, iron supplementation was linked to an increased prevalence of pathogens such as Salmonella, Clostridium difficile, Clostridium perfringens, and Escherichia coli, leading to gut inflammation. Prebiotics, including common foods like garlic, onion, artichoke, and asparagus, as well as commercially available supplements, were found to stimulate the growth of beneficial bacteria such as Bifidobacteria. Prebiotics were observed to modulate the gut microbiome positively, leading to enhanced calcium, magnesium, and iron absorption.

Conclusion:
Altogether, these data highlight that iron deficiency affects not only the human host but also its gut bacterial partners, as evidenced by preclinical research. However, various other factors may influence the diversity and function of the gut microbiome and may interfere with the effects induced by micronutrient deficiencies. There remains a paucity of research examining the role of iron status in modulating the gut microbiota among individuals undergoing bariatric surgery.

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The management of biliary disease in patients with severe obesity undergoing metabolic and bariatric surgery—an international expert survey

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Objective:
This study aimed to survey international experts in metabolic and bariatric surgery (MBS) to improve and consolidate the management of biliary disease in patients with severe obesity undergoing MBS.

Background:
Obesity and rapid weight loss after MBS are risk factors for the development of gallstones. Complications, such as cholecystitis, acute cholangitis, and biliary pancreatitis, are potentially life-threatening, and no guidelines for the proper management of gallstone disease exists.

Methods:
An international scientific team designed an online confidential questionnaire with 26 multiple-choice questions. The survey was answered by 86 invited experts (from 38 different countries), who participated from August 1, 2023, to September 9, 2023.

Results:
Two-thirds of experts (67.4%) perform concomitant cholecystectomy in symptomatic gallstones during MBS. Half of the experts (50%) would wait 6–12 weeks between both surgeries with an interval approach. Approximately 57% of the experts prescribe ursodeoxycholic acid (UDCA) prophylactically after MBS, and most recommend a 6-month course. More than half of the experts (59.3%/53.5%) preferred laparoscopic-assisted transgastric ERCP as the approach for treating CBD stones in patients who previously had RYGB/OAGB.

Conclusion:
Concomitant cholecystectomy is preferred by the experts, although evidence in the literature reports an increased complication rate. Prophylactic UDCA should be recommended to every MBS patient, even though the current survey demonstrated that not all experts are recommending it. The preferred approach for treating common bile duct stones is a laparoscopic-assisted transgastric ERCP after gastric bypass. The conflicting responses will need more scientific work and clarity in the future.

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The mid-term effects of transit bipartition with sleeve gastrectomy: A retrospective study in China

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Background:
Transit Bipartition with Sleeve Gastrectomy (SG-TB) is a promising emerging technique for treating metabolic syndrome.

Objectives:
To analyze the mid-term outcomes of SG-TB in the treatment of obesity and related comorbidities.

Methods:
From 2019 to 2021, 27 patients with obesity who underwent SG-TB at The Affiliated Hospital of Xuzhou Medical University were retrospectively analyzed. The general information and complications of the patients before the operation were recorded, and postoperative changes in weight, glucose metabolism, comorbidity improvement, nutritional status, and gastrointestinal symptoms were evaluated.

Results:
Among the 27 patients included in this study, the body mass index (BMI) and fasting blood glucose (FBG) levels decreased significantly from preoperative values (36.8±5.5 kg/m² and 9.3±3.9 mmol/L, respectively) to 25.9±3.4 kg/m² and 4.9±0.7 mmol/L at 3 years after surgery. The percentage of total weight loss (%TWL) and excess weight loss (%EWL) were 27.9% and 99.0%, respectively. Remission rates for diabetes, hypertension, gastroesophageal reflux disease (GERD) and obstructive sleep apnea hypopnea syndrome (OSAHS) were 93.3%, 94.4%, 66.7% and 90.9%, respectively. Postoperatively, one case of anemia and hypoproteinemia, one case of diarrhea, and two cases of smelly fart occurred, all of which improved with conservative treatment.

Conclusion:
SG-TB has achieved satisfactory results in weight reduction and the improvement of obesity-related complications in its midterm outcomes. However, we need more long-term evidence and comparison to other surgical techniques.

Table. Patients' preoperative and postoperative assessments comparison

	Preoperative	Postoperative
BMI (kg/m²)	36.8 ± 5.5	25.9 ± 3.4*
FBG (mmol/L)	9.3 ± 3.9	4.9 ± 0.7*
%TWL		27.9 ± 10.7
%EWL		99.0 ± 39.5
Diabetes	24/27 (88.9%)	2/24 (8.3%)*
Hypertension	18/27 (66.7%)	1/18 (5.6%)*
GERD	3/27 (11.1%)	0/3 (0%)*
OSAHS	11/27 (40.7%)	1/11 (9.1%)*

* statistically significant with a p-value <0.05

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The necessity for long term multivitamin supplementation after sleeve gastrectomy

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Background:
Deficiencies for micronutrients are common in patients with obesity. After Sleeve Gastrectomy (SG), Roux-en-Y gastric bypass (RYGB) and even more hypoabsorptive procedures like the (OAGB) these deficiencies increase and are the most common complication after bariatric surgery. Despite this negative effect, still many healthcare professionals do not inform their patients correctly on the necessity of lifelong preventive vitamin and mineral use and especially the SG is often seen as a low risk procedure for deficiencies.

Objective:
To examine the effectiveness of the specialized multivitamin supplement, on deficiencies and mean serum concentrations in large cohorts and RCT's of SG, RYGB and BPD(-DS) patients.

Methods:
In total an overview is given of two RCTs in which patients were randomized between a placebo and optimised multivitamins based upon their procedure type. Additionally, data from three prospective cohort studies with a follow-up of up to three years, in which patients chose themselves to use the multivitamins were used. Cost effectiveness was also evaluated.

Results:
At baseline, a total of 2367 patients were included in the studies combined of which 300 in de RCTs and 2067 in the prospective cohorts. For RYGB significantly less de novo deficiencies were found for ferritin (1% versus 4%, p=0.029), vitamin B12 (9% versus 23%, p<0.001) and vitamin D (0% versus 4%, p<0.001) in users compared to non-users. With a specialised multivitamin, SG patients show less deficiencies for folic acid (9% vs 24%, p<0.01) and ferritin (9 vs 15%, p<0.01) and a lower serum level drop with a specialised multivitamin, but it required further optimization for iron and vitamin B12. A second optimised multivitamin which contains higher ferritin (200% RDA) and B12 (4000% RDA) (WLSO II) show higher delta ferritin (57) and B12 (32).

Conclusions:
Vitamin B12, vitamin D, folate and iron deficiencies are common among bariatric patients in general, but also in SG patients, and not just in the short term. The study shows once again the necessity for using multivitamins after SG lifelong because of high percentages of the same deficiencies seen in other hypoabsorptive and hypoabsorptive bariatric

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The potential role of personalized medicine in predicting the outcomes of metabolic bariatric surgery

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Background:
Metabolic bariatric surgery is widely recognized as the most effective therapy for severe obesity. However, the extent of weight loss following surgery varies greatly and is influenced by genetic factors. Genome-wide association studies (GWAS) have identified numerous single nucleotide polymorphisms (SNPs) that are associated with weight, body fat percentage, and eating behaviours.

Objectives:
This study aimed to investigate the effects of sequence variants and determine the impact of SNPs on patients' responses to metabolic bariatric surgery.

Methods:
This systematic review article summarizes studies that have examined the influence of genetic polymorphisms on the effectiveness of bariatric surgery and weight loss pathways. The Scopus and PubMed databases were systematically searched up until January 2021 for GWAS studies that provided insights into the genetic factors affecting bariatric surgery outcomes.

Results:
Evidence from GWAS studies has revealed that several genes and SNPs influence individual responses to bariatric surgery. Most of these SNPs are associated with genes involved in the regulation of lipolysis/lipogenesis pathways, adipose cell metabolism, metabolic processes, insulin resistance, insulin/glucagon metabolism, feeding behaviour, and appetite regulation. Notably, the most extensively studied and influential polymorphisms that affect bariatric surgery outcomes include the rs16945088 SNP of the FTO (fat mass and obesity-associated) gene, the MC4R (melanocortin 4 receptor) gene, the rs660339 (Ala55Val) SNP of uncoupling proteins 2 (UCP2), the leptin receptor gene (Lys656Asn and Asn656Asn), the glucagon-like peptide 1 receptor gene (rs6923761), and the INSIG2 (insulin-induced gene 2) gene.

Conclusion:
Genetic background significantly impacts weight loss following metabolic bariatric surgery. In the future, genetic testing could potentially be used in the pre-surgical assessment of patients with severe obesity to select the most suitable surgical procedure, thereby minimizing unnecessary adverse effects and costs.

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The preoperative micronutrient repletion gap: high prevalence yet the focus is on postoperative treatment - a systematic review

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Background:
Preoperative micronutrient deficiencies are highly prevalent for people undergoing metabolic and bariatric surgery (MBS), but research has focused on postoperative treatments.

Objective:
To determine the effect of preoperative micronutrient repletion strategies on preoperative and early postoperative micronutrient status.

Methods:
A systematic review searched four databases for studies published to April 2022 and updated in PubMed in November 2023. Interventional and observational studies were eligible if they identified and treated any micronutrient deficiency prior to MBS, except vitamin D (investigated separately). Outcomes were change in micronutrient levels and deficiency rates. Studies were critically appraised via the Quality Criteria Checklist. Findings were synthesised narratively. Confidence in the evidence was evaluated by GRADE when two or more comparable interventions reported on a primary outcome.

Results:
Sixteen repletion groups from 12 observational (100% neutral quality) and one interventional study (positive quality) were included. Repletion was delivered via oral multivitamin, oral supplement, and combined multivitamin and oral supplement (n=13 groups), intravenous (n=1 group), and a mix of oral and/or intramuscular routes (n=2 groups) with highly heterogenous doses and repletion durations.
It showed no change on status of vitamin A (n=3 out of 3 groups), vitamin E (n=2/2 groups), thiamin (n=3/3 groups), vitamin B12 (n=3/3 groups, GRADE: very low), or zinc (n=1/1 group) via oral route; no change on vitamin B12 deficiency rate via intramuscular route (n=1/1 group).
Multivitamin or combined multivitamin and oral supplement improved status of vitamin B6 (n=1/2 groups), folate (n=2/3 groups), and vitamin C (n=1/2 groups) but had on change on ferritin levels (n=3/3 groups) or calcium status (n=2/2 groups). Oral supplement improved folate deficiency rate (n=1/1 group) and calcium level (n=2/2 groups) but did not change ferritin level or deficiency rate (n=2/2 groups). Intravenous iron infusion improved ferritin levels (n=1/1 group).

Conclusion:
Preoperative micronutrient repletion strategies were heterogeneous and varied in effectiveness, limiting confidence in the evidence. Oral supplements may support repletion of vitamin B6, folate, vitamin C, and calcium; and iron infusion may improve ferritin levels. Future studies using interventional design are required to confirm ideal repletion strategies for clinical efficacy, safety, and feasibility.

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The rate of bile flow after end-side or side-side anastomosis in OAGB

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Introduction:
OAGB is an increasing method in the world due to its results and low rate of complication. One of important problems after OAGB is bile reflux into stomach pouch and esophagus. This study is going to compare bile flow to pouch and esophagus in two important types of anastomosis between pouch and jejunum.

Method:
Two similar groups of OAGB included in this study. Patients of G1 (E/S) had pouches at the level of incisura with hand sewn end to side anastomosis between pouch and jejunum. The length of anastomosis is 2 cm. Patients of G2 (S/S) had pouches at the level of Crow’s food nerve about 5 cm distal to incisura with side to side anastomosis by 4.5 cm stapler. The length of anastomosis is about 5 cm. Endoscopy used in all of asymptomatic patients in two groups and the rate of bile existence, edema or ulcer at the level of anastomosis, pouch and esophagus reported in each patient. All of endoscopies performed by one expert endoscopic man. All of data documented by pictures.

Result:
Based on statistic advise, 10 cases in each group selected with similar BMI, Sex and comorbidities. Based on including criteria of this study all of patients were asymptomatic (any reflux or epigastric pain). Endoscopy data documented by pictures as well and it collected in Minimally invasive surgery research Center, Sina Hospital. BMI of both groups was 45.5/46 in G1/G2. Female to Male 6/5 and 5/5 in G1 and G2 respectively. Existence of bile in pouch was / in G1/G2. Edema at pouch was / in G1/G2. Ulcer at pouch was / in G1/G2. Edema at anastomosis was / in G1/G2. Marginal ulcer was / in G1/G2. Bile in esophagus was / in G1/G2. Edema at esophagus was / in G1/G2.

Conclusion:
Small hand sewn E-S anastomosis has sphincter effect to prevent passage of bile into pouch and esophagus in asymptomatic patients. As the risk of bile in pouch and esophagus is less in E-S anastomosis, it seems the rate of bile reflux should be less in this group.

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The role of expert guidance in simulation-based laparoscopic training for Chinese junior bariatric surgeons

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Background:
Simulation-based laparoscopic training (SLT) has been perceived as an effective and advanced training process for junior bariatric surgeons; however, evidence regarding the effect of guidance from expert surgeons during training is quite limited, especially in mainland China.

Objective:
A single-center, prospective randomized controlled trial was designed to evaluate the impact of the guidance of bariatric experts on the effect of SLT for junior bariatric surgeons in our training center.

Methods:
Individuals without SLT experience were included in this study and randomly divided into an SLT group and an SLT with expert guidance (SLT-EG) group at a 1:1 ratio. After passing the laparoscopic basic skills tests and learning the operation of the laparoscopic gastric bypass (LRYGB) simulator, individuals from both groups were asked to perform a simulated LRYGB as the initial assessment and received 1 week of SLT in LRYGB with the same training frequency. The difference between the two groups was whether individuals were supervised and guided by bariatric and metabolic surgery (BMS) experts during the training process. After the training, all participants completed an LRYGB on the porcine surgical model as the final assessment. Participants' operations were videorecorded, and their skills were assessed using the Bariatric Objective Structured Assessment of Technical Skill (BOSATS) instrument by blinded video review.

Results:
Twenty individuals were recruited. After the 1-week SLT was completed, individuals from the SLT-EG group significantly outperformed those from the SLT group in the final assessment, as measured by the BOSATS ($p<0.05$). Participants in the SLT-EG achieved higher BOSATS scores for creation of a gastric pouch (24.2±2.3 vs 21.1±3.2, $p<0.05$), measurement and incision of the jejunum (27.2±3.3 vs 24.9±3, $p<0.05$), gastrojejunostomy (29.2±3.2 vs 25.1±4.3, $p<0.05$) and jejunojejunostomy (27.1±3.3 vs 23.5±2.6, $p<0.05$).

Conclusions:
In LRYGB simulator training, expert guidance can improve the level of surgical operations on porcine surgical models and improve the training effect. This may indicate that although SLT is a reliable method for LRYGB training, the automatic evaluation and feedback system of the simulator is not yet able to replace the role of expert guidance.

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Thiamine deficiency in the early post-operative period following bariatric surgery: a single-center observational study

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Background:
Thiamine deficiency is a significant concern following bariatric surgery, potentially leading to severe complications.

Objective:
This observational study aimed to assess the prevalence of thiamine deficiency and associated symptoms in the early post-operative period following various bariatric surgeries at our center.

Methods:
Patients who underwent various types of bariatric surgery at our center, were screened for symptoms including nausea, repeated vomiting, dysphagia, muscle weakness, and the inability to perform daily activities. Those presenting with these symptoms were further evaluated. Thiamine deficiency was assessed by clinical symptoms and confirmed through laboratory testing. Treatment included oral thiamine supplementation (100mg BD for 4 months) and intravenous supplementation (200 mg BD) for severe cases.

Results:
Among the 853 patients, Laparoscopic Sleeve Gastrectomy (LSG) constituted 32.9%, Roux-en-Y Gastric Bypass (RYGB) 30.9%, and One Anastomosis Gastric Bypass (OAGB) 36.1%. Demographic characteristics revealed a mean age of 46± 3.4 years, predominantly female patients (59.4%), with 68% following a vegetarian diet. Common early post-operative symptoms included nausea (73.3%), vomiting (64.2%), dysphagia (57.6%), and muscle weakness (42.4%), typically emerging within the first month after surgery. Of the 853 patients, 19.2% were diagnosed with thiamine deficiency, varying slightly by surgery type (LSG: 6.9%, RYGB: 5.9%, OAGB: 6.4%). Symptoms appeared within 15-, 19-, and 14-days post-surgery for LSG, RYGB, and OAGB, respectively. Patients with thiamine deficiency received oral supplementation for four months, with intravenous supplementation for severe cases. Over time, symptoms significantly improved, with a 91% reduction observed at four months. Notably, no deficiency-related symptoms were reported at 5- and 6-month follow-ups.

Conclusion:
Thiamine deficiency is a prevalent concern in the early post-operative period following bariatric surgery, affecting nearly one-third of patients in our study. Early recognition of symptoms is crucial for timely intervention, and we recommend routine oral thiamine supplementation (100mg BD) for at least three months following all bariatric surgeries to prevent thiamine deficiency-related complications. This comprehensive approach ensures the well-being and optimal clinical response of individuals who underwent MBS.

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Three-port laparoscopic sleeve gastrectomy for severe obesity

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Background:
Sleeve gastrectomy is traditionally performed with the aid of 5 to 7 abdominal trocars. We aim to present our experience concerning laparoscopic sleeve gastrectomy for sever obesity, with a more minimal invasive approach, using three ports- trocars.

Introduction:
Laparoscopic Sleeve Gastrectomy (LSG) is traditionally performed using 5 to 7 abdominal trocars. By reducing the number of trocars, parietal trauma, pain and hernia risks can be minimized.

Objectives:
We present our 10-year experience from March 2014 to March 2024 concerning LSG for sever obesity using three trocars, with emphasis on a simple suture-based trocar-free liver retractor.

Methods:
Three trocars are typically used: one 10-mm periumbilical optical trocar and two 12-mm trocars on the midclavicular lines. A suture is percutaneously inserted and fixed to the right crus of the diaphragm. Careful traction lifts the left hepatic lobe offering better surgical field and access to the gastroesophageal junction. A gauze is used to protect liver parenchyma from possible injury. Furthermore, sectioning and stapling of the stomach is performed before the gastroepiploic division, reducing the need of another left sided trocar.

Results:
All the patients had an uncomplicated recovery. No liver injury or wound problem was mentioned.

Conclusions:
The placement of a suture at the right crus of the diaphragm can reduce the number of trocars, leading to less postoperative pain, risk of hernia and better cosmetic outcome without compromising the safety of the operation or the rate of postoperative complications.

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Three-year results of comparison between ringed versus non-ringed roux-en-y gastric bypass A randomized control trial

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Background:
Bariatric surgery, including Roux-en-Y gastric bypass (RYGB), is known for its effectiveness in weight loss and improving obesity-related co-morbidities. This study aims to compare the outcomes of ringed RYGB (rRYGB) and non-ringed RYGB (nrRYGB) in terms of weight loss, co-morbidity resolution, gut hormones measurement, dumping syndrome, and anatomical changes postoperatively.

Objectives:
To determine the differences in weight loss, resolution of co-morbidities, and gut hormones measurement after 3 years between rRYGB and nrRYGB. Additionally, to compare rates of dumping syndrome, changes in gastric pouch volume, and diameter of the gastrojejunostomy anastomosis between the two surgical groups.

Methods:
This single-blinded randomized controlled trial included 240 patients with an average age of 46.1 years. Baseline characteristics were similar between the rRYGB and nrRYGB groups. Data were analyzed using Generalized Estimating Equations (GEE) to assess weight loss, BMI, total weight loss (%TWL), excess weight loss (%EWL), recurrent weight gain, and unresolved comorbidities over 3 years. Postoperative outcomes such as SF-36 health survey domains, laboratory investigations, pouch volumetry, and dumping scores were also evaluated.

Results:
The three-year comparison between rRYGB and nrRYGB surgeries included 240 patients, with an average age of 46.1 ± 7.3 years, 82.5% female, and an average BMI of 45.0 ± 3.7. There were no significant differences between the two surgery groups in terms of demographics or co-morbidities. By the third year postoperatively, rRYGB showed significant improvements compared to nrRYGB, with a mean difference in %TWL of 1.3% and %EWL of 3.8%, as well as a significant reduction in recurrent weight gain and lower non-responder rates. Additionally, rRYGB demonstrated less dilatation in pouch volume, anastomosis diameter, improvement in dumping syndrome, and gastric hormones measurements.

Conclusion:
In conclusion, ringed RYGB is associated with better long-term weight loss outcomes, reduced recurrent weight gain, and improved pouch volumetry compared to nrRYGB. Both surgical techniques showed similar improvements in resolving comorbidities and enhancing quality of life as measured by the SF-36 health survey. These findings support the potential benefits of utilizing ringed RYGB in bariatric surgery practice for improved patient outcomes.

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Tracing immune reconstitution in the obese post-bariatric surgery through longitudinal single-cell RNA sequencing

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Background:
Obesity undermines immune system functionality through mechanisms such as chronic low-grade inflammation and adipokine imbalance. While the impact of obesity on immune cell function and phenotype has been recognized, a comprehensive understanding of the immune landscape's evolution following bariatric surgery remains underexplored.

Objectives:
This study investigates the dynamic immune system modifications within the first-year after bariatric surgery, aiming to understand the reversal process of obesity-induced immune dysregulation.

Methods:
Employing single-cell RNA sequencing, we analyzed peripheral blood mononuclear cells from individuals with obesity undergoing bariatric surgery, with samples collected before and at 3-, 6-, and 12-months post-operation, from a cohort of sixty-two individuals.

Results:
Our longitudinal analysis revealed a complex and staged immune response to bariatric surgery, marked by initial declines in proliferative lymphocytes and consistent reductions in mucosal associated invariant T (MAIT) cells and $CD14^+$ monocytes. Notably, MAIT cells did not revert to baseline levels observed in healthy controls, highlighting a specific area of prolonged dysregulation. In contrast, hematopoietic stem cells and intermediate transition memory B cells displayed increasing trends, suggesting an ongoing regenerative and memory-enhancing immune adaptation. While NKT cells and memory B cells initially showed increases, they did not sustain elevated levels throughout the year. CD8 T cells experienced a temporary surge within the first six months before stabilizing, indicative of a transient adaptive immune response. Interestingly, Mono DCs decreased over the year but eventually aligned with levels seen in healthy individuals, suggesting a gradual rebalancing of antigen presentation capabilities.

Conclusion:
Our findings offer insight into the nuanced and phased recovery of the immune system following bariatric surgery in patients with obesity, highlighting both transient activations and a gradual return to a normalized immune landscape. Notably, some immune functions appear not to fully restore post-surgery, underscoring the complexity of obesity's long-standing impact on immune health and the need for further investigation into strategies that might enhance immune recovery and overall patient outcomes post-bariatric surgery.

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Trends in bariatric and metabolic surgery in Colombia: results of the first national survey on bariatric surgery.

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Background:
The rates of population with obesity and bariatric/metabolic procedures in Latin America have increased dramatically in recent years. There are few studies focused on describing the technical variations of the most frequent interventions performed.

Objectives:
Describe trends in surgical management, characterizing the frequencies and technical variations of the most frequently performed bariatric/metabolic surgeries (MBS) in Colombia.

Methods:
A virtual survey-type questionnaire was conducted with 62 questions that evaluated trends in perioperative management and surgical practices of surgeons members of the Colombian association of bariatric surgery (ACOCIB). Data was analyzed using descriptive statistics.

Results:
All respondents were surgeons, of whom 80% reported more than 10 years of experience in BMS. 100% of respondents performed Sleeve gastrectomies (SG), 96% performed Roux-en-Y gastric bypass (RYGB), 37% performed one anastomosis gastric bypass (OAGB) and only 26% performed SADI-S. In SG , the most frequent calibration was 36-40 Fr (62%), the beginning of the sleeve at 4-7 cm from the pylorus (55%) and 90% performed reinforcement of the suture line. In RYGB, 50% perform the gastrojejunal anastomosis with linear mechanical suture, the average length of the biliary limb was more than 70 cm (58%) and the alimentary loop between 150 - 170 cm (55%). 90% closes the mesenteric defects. In OAGB, 55% of respondents perform the anastomosis between 150 - 200 cm from the ligament of Treitz and the majority perform a gastric pouch of at least 15 cm. In SADIS the common loop was reported between 150 - 300 cm (57%). The most frequently reported procedure leading to revision or conversion surgery is sleeve gastrectomy (80%) and the most common causes are gastroesophageal reflux (52%) and recurrent weight gain (42%). The procedure most frequently converted to was RYGB.

Conclusions:
This study provides an update on SG, RYGB, OAGB and SADIS surgical techniques among bariatric surgeons in Colombia. We identified wide variations in anastomotic confection techniques, limb length and other practices. This finding will help direct future international studies to investigate how these differences contribute to changes in long and short term outcomes.

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Trends in Bariatric Revision Surgery

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Background:
Secondary to an increase in total number of bariatric surgeries performed, it is estimated that the incidence of bariatric revision surgery will grow.

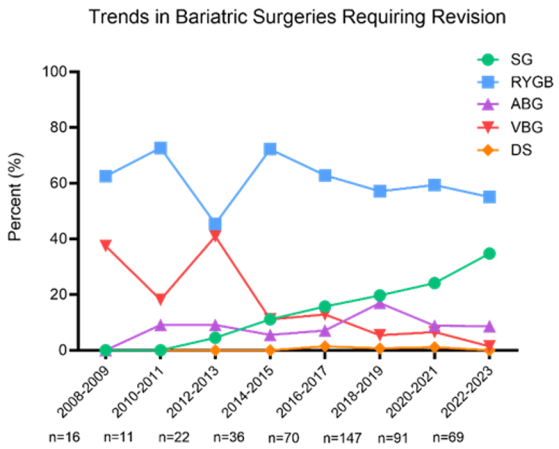
Objectives:
Describe recent trends in bariatric revision surgery.

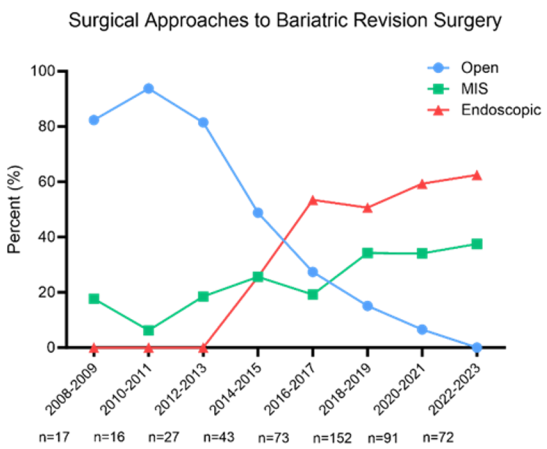
Methods:
We identified patients who underwent a bariatric revision procedure between 2008-2023 at a single large quaternary referral center. A retrospective review was performed to collect data pertaining to bariatric surgical history. A descriptive review of data was performed to evaluate trends.

Results:
499 patients underwent a bariatric revision procedure with a mean age of 52.5±11.8 years and body mass index of 38.5±9.9 kg/m^2 (Table 1). The most common primary bariatric surgery requiring revision was Roux-en-Y gastric bypass (RYGB), with sleeve gastrectomy (SG) revision increasing over recent years. The most common indication for revision was suboptimal clinical response in weight loss. Between 2008-2015, open conversion to RYGB was the most common revisional procedure; between 2016-2023, the most common revision procedure was endoscopic transoral outlet reduction.

Conclusion:
Bariatric revision surgery is becoming more common. Minimally invasive surgery and increasingly sophisticated endoscopic techniques have largely replaced open bariatric revision surgery over the past decade.

PATIENT DEMOGRAPHICS	Primary	Revision
Patients,n	499	
Sex,M/F	77/422	
Age,year	40.6±11.8	52.5±11.8
BMI,kg/m^2	48.7±10.3	38.5±9.9
Most common procedure(n,%)	RYGB(274,55.9%)	TORe(200,42.3%)
INDICATIONS	n(%)	
Suboptimal clinical response/weight loss	303(52.8%)	
GERD	91(15.9%)	
Dysphagia	47(8.2%)	
Hypoabsorption	27(4.7%)	
Marginal ulcer	19(3.3%)	
GJ stenosis/revision	19(3.3%)	
Bile reflux	17(3.0%)	
GG fistula	14(2.4%)	
Other	32(5.6%)	





Oral

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Trends of incidence and outcomes of same day discharge after metabolic and bariatric surgery in patients >65 years od in North America

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Background:
The prevalence of metabolic and bariatric surgery (MBS) among adults older than 65 is increasing in North America. While most MBS patients remain hospitalized after surgery, incidence and outcomes of same day discharge (SDD) after MBS in adults >65 remain unclear.

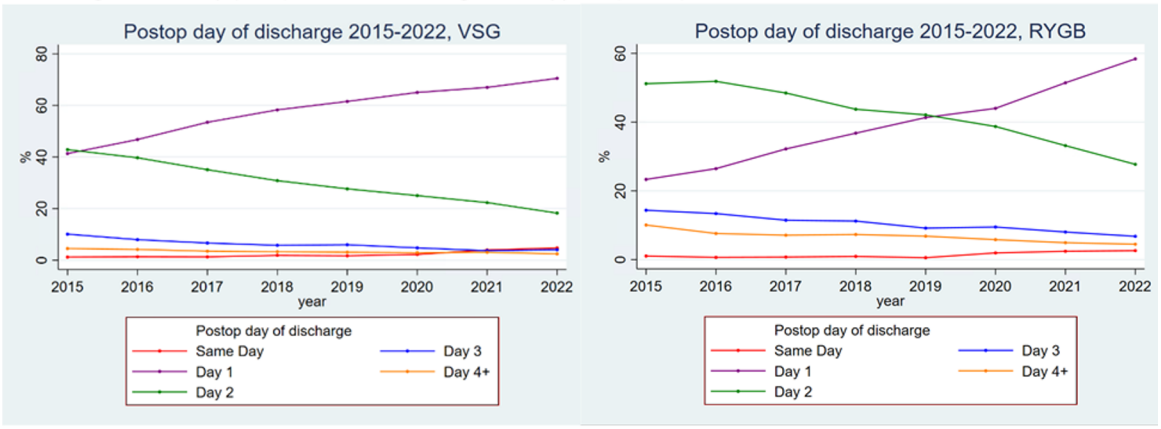
Objectives:
We aimed to describe the incidence of SDD after MBS in patients >65 years and determine their association with 30-day postoperative outcomes.

Methods:
We queried the 2015-2022 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database for patients over 65 who underwent laparoscopic vertical sleeve gastrectomy (VSG) and laparoscopic Roux-en-Y gastric bypass (RYGB). Patients who were discharged to home, permanent resident, or a facility which was home were stratified by postoperative day of discharge (PDD). We compared sociodemographic and clinical characteristics and outcomes by PDD using ANOVA, Chi-square, and Kruskal-Wallis tests. An adjusted logistic regression was performed for select outcomes.

Results:
We identified 58,120 patients who underwent RYGB (28.4%) or VSG (71.6%) between 2015 and 2022. The mean age was 68.5 years (SD 2.7) and 71.8% were female. The proportion with SDD increased from 1.17% in 2015 to 4.15% in 2022 whereas patients with PDD≥2 decreased over the years. See figure 1 for trends in PDD stratified by RYGB and VSG. Compared to those with PDD≥1, proportionally fewer patients with SDD had prior COPD (SDD=3.2%, PDD1=4.7%, PDD2=5.7%, PDD3=7.2%, PDD≥4=9.6%; p<0.001), prior anticoagulation therapy (SDD=8.0%, PDD1=10.3%, PDD 2=11.5%, PDD3=14.2%, PDD≥4=18.0%; p<0.001), and prior MI (SDD=3.2%, PDD1=3.9%, PDD2=4.5%, PDD3=5.5%, PDD≥4=7.0%; p<0.001). On regression analysis, there were no significant associations between SDD and postoperative ED visits, 30-day readmission, 30-day reoperation, and unplanned ICU admissions (p>0.05).

Conclusions:
From 2015 to 2022, there has been a small increase in SDD after MBS among adults >65 in North America. Judicious use of the SDD pathway in this population is not associated with worse postoperative outcomes; however, given the overall small number of SDD, blanket recommendations in this population cannot be made and will require additional study.

Figure 1. Trends in postoperative day of discharge among North American adults >65 undergoing vertical sleeve gastrectomy (VSG) and Roux-en-Y gastric bypass (RYGB)



Oral

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Type 2 diabetes remission: a comparison between Roux-en-Y gastric bypass versus sleeve gastrectomy with duodenojejunal bypass

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Background:
Although Roux-en-Y gastric bypass (RYGB) has been considered the standard procedure for type 2 diabetes mellitus (T2DM), concerns for remnant gastric cancer linger especially in Asian countries where the prevalence of gastric cancer remain high. Sleeve gastrectomy with duodenojejunal bypass (SG-DJB), a version of the biliopancreatic diversion (BPD), has gained popularity with its bypass component without jeopardizing gastric cancer surveillance. However, there is limited research on comparing T2DM remission between the two procedures.

Objectives:
This study aimed to report the 12-month outcomes of T2DM remission after SG-DJB in comparison to that of RYGB.

Methods:
A prospectively maintained database was analyzed, through which the data of 81 cases of SG-DJB and 79 cases of RYGB in patients with T2DM were collected. Surgical outcomes including weight loss and diabetes remission were compared between the two groups. Modified ABCD score was used to evaluate the severity of T2DM at baseline. The predictors for complete remission of T2DM at 12 months after surgery were also analyzed.

Results:
The baseline analysis showed that the preoperative BMI was 40.2 ± 6.8 kg/m2 in the RYGB group and 35.9 ± 4.7 kg/m2 in the SG-DJB group ($p < 0.001$). T2DM duration was 2.4 ± 3.4 years and 4.2 ± 4.2 years ($p = 0.002$) and ABCD scores were 7.2 ± 2.1 and 5.7 ± 2.1 in the RYGB and SG-DJB groups, respectively ($p < 0.001$). %TWL at 12 months was 25.6 ± 7.6 % in RYGB group and 25.4 ± 9.6 % in the SG-DJB group ($p = 0.920$). The proportion of partial or complete T2DM remission was 82.9 % and 76 % in the RYGB and SG-DJB groups, respectively. Multivariate analysis revealed that baseline BMI, C-peptide, HbA1c, duration of T2DM, and insulin use were independent predictors of T2DM remission.

Conclusion:
SG-DJB showed comparable outcomes of T2DM control at 12 months compared to RYGB. Factors related to the ABCD score served as predictors of T2DM remission.

Oral

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Understanding and Managing Anemia in Patients Following Bariatric Surgery

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Background:
Anemia represents a prevalent complication among patients affected by obesity and those undergoing bariatric surgery. The Chinese Society for Metabolic and Bariatric Surgery (CSMBS) recognized the significance of addressing postoperative anemia following MBS. In response, discussions were initiated, drawing upon the expertise of professionals in metabolic and bariatric surgery as well as hematology. These discussions aimed to consolidate existing clinical research evidence and establish consensus on the prevention and management of anemia in the post-bariatric surgery setting.

Objectives:
The primary objective was to formulate a comprehensive approach to address postoperative anaemia following bariatric surgery. Specifically, the focus was on diagnosing, analyzing causes, implementing preventive measures, and determining appropriate treatment modalities for this condition. By engaging with a diverse group of experts and drawing upon their collective knowledge, the intention was to develop a consensus that would guide healthcare practitioners in effectively managing postoperative anaemia.

Methods:
The drafting process was spearheaded by experts actively involved in relevant research endeavours. More than 40 professionals from pertinent fields were invited to review the content, ensuring a thorough and well-informed consensus opinion. Through collaborative efforts, discussions were organized to synthesize existing clinical research evidence and expert insights. These discussions served as the foundation for formulating recommendations regarding the prevention and management of post-bariatric surgery-related anaemia.

Results:
The collaborative efforts of the experts led to the development of the "Expert Consensus on Management Strategies for Bariatric Surgery-Related Anaemia (2023-2024 Edition)". This consensus document provides guidance on the diagnosis, causal analysis, preventive measures, and treatment methods for postoperative anaemia following bariatric surgery. By drawing upon the collective expertise of professionals in metabolic and bariatric surgery, as well as hematology, a comprehensive approach to managing post-bariatric surgery-related anaemia was established.

Conclusion:
The formulation of this consensus document represents a significant step towards enhancing the awareness of obesity metabolism surgeons regarding the prevention and management of postoperative anaemia after MBS. By standardizing the management of postoperative anaemia, healthcare practitioners can effectively address this common complication, thereby improving patient outcomes and enhancing the quality of care provided to individuals undergoing bariatric surgery.

Oral

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Use of oxidized regenerated cellulose during laparoscopic sleeve gastrectomy: A retrospective cohort analysis

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Background:
Laparoscopic sleeve gastrectomy is one of the commonly performed bariatric procedures for weight reduction.
Hemorrhage during procedure from the stapler lines is one of the dreaded complications that can occur during the surgery.
Oxidized regenerated cellulose (ORC) usage added to conventional hemostatic strategies may be used to control oozing from the stapler lines.

Objectives:
To assess the effectiveness of ORC at the stapler line after laparoscopic sleeve gastrectomy in view of postoperative drain output.

Methods:
We conducted a retrospective study with a time frame of 24 months from February 2021 to February 2023 at VPS Lakeshore hospital, Kochi in which 76 patients were enrolled in the study in which ORC was used in 38 patients and no hemostatic agent was used in 38 patients.

Results:
The mean and the median drain output in the individuals for whom ORC was used was significantly less compared to the patients where ORC was not used. The mean hospital stay was also reduced in patients for whom ORC was used.

Conclusion:
ORC is effective in controlling stapler line oozing. Use of ORC not only reduces the duration of surgery but also the overall hospitalization period for the patient. Hence it is advisable to use ORC during laparoscopic sleeve gastrectomy as a safe hemostatic agent.

Oral

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Using BODY-Q as a preoperative evaluation tool for patients undergoing body contouring surgery

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Background:
BODY-Q is a validated patient-reported outcome measure for patients who wish to undergo body contouring surgery. It examines patients' perceptions of their physical appearance, psychological impact of skin and soft tissue redundancy, their overall quality of life, and healthcare experiences before and after body contouring procedures. From our experiences, it can also be an excellent screening tool during the initial consultation that helps the patient identify and prioritise areas that they wish to address the most.

Objectives:
To explore the utility of the BODY-Q questionnaire in guiding preoperative assessments of patients who wish to undergo body contouring surgery following massive weight loss.

Methods:
16 patients completed the BODY-Q before their first preoperative consultation to help identify their areas of concern and psychosocial factors that may impact their surgery.

Results:
16 female patients were included with a mean age of 44.8 years and mean BMI of 30.0 kg/m2. The lowest scoring scales are as follows: Abdomen (mean 6.3), excess skin (mean 12.9), body (mean 30.6), body image (mean 34), and inner thigh (mean 36.9).

Conclusion:
BODY-Q is a useful screening tool that can objectively quantify a patient's motivations for pursuing body contouring surgery and prioritise the area of treatment.

Oral

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Using continuous glucose monitors in bariatric surgical patients: a surprised finding.

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Transform Weight Loss

Background:
Continuous Glucose Monitors are most frequently use to manage blood sugars in patients affected by diabetes. With the recent FDA approval for over-the-counter CGMs, they are commonly being used for weight management in patients without diabetes. We are finding that some of these patients without diabetes with normal HbA1c and fasting glucose actually have type 2 diabetes. Type 2 diabetes diagnosis is often needed to have insurance coverage for GLP1RA medications due to labeling requirements. Furthermore, many patients after bariatric surgery suffer from both hypo and hyperglycaemic episodes. GLP1RA medications can mitigate these symptoms and enhance weight loss.

Objectives:
Does using CGMs combined with GLP1RA medications improve symptomatic hypoglycaemia in post bariatric surgical patients.

Methods:
Bariatric surgical patients were provided with a Dexcom G7 or Eversense CGM several years after their procedure. Blood sugars were monitored every five minutes over several months using a monitor and phone app. Hypoglycaemic symptoms and weights were recorded. Patients were subsequently started on Tirzepatide and continued to monitor episodes of hypoglycaemia or hyperglycaemia. Patients were followed monthly for medication and weight management.

Results:
Three bariatric surgical patients without diabetes were prescribed CGMs for symptomatic hypoglycaemia. All of them had blood sugars over 200 mg/dL followed by symptomatic hypoglycaemia after eating. Each started on Tirzepatide. The Tirzepatide resolved these episodes of hypo and hyperglycaemia and provided tight glycaemic control. This correlated with weight loss.

Conclusion:
New technologies such as CGMs combined with GLP1RA medications can mitigate symptomatic hypoglycaemia and inappropriate postprandial hyperglycaemia in bariatric surgical patients. They can also improve weight loss for long term optimal clinical response. Furthermore, CGMs can provide an avenue for insurance coverage for GLP1RA medications for bariatric patients who may have been misdiagnosed due to having normal HbA1c and fasting glucose levels.

Oral

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Utility of one anastomosis gastric bypass in type1 diabetes, a literature review and case series.

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MBSA

Background:
Safety and efficacy of most metabolic bariatric procedures in patients with Type 1 Diabetes Mellitus (T1DM) have been demonstrated in previous studies. However, there is scarce evidence regarding the utility of One anastomosis gastric bypass in this group of patients.

Methods:
This study presents a review of literature and reports a series of 3 cases with T1DM who underwent One anastomosis Gastric Bypass for weight loss.

Results:
All three patients achieved Optimal clinical responses with regards to weight loss (48%, 19% and 41% total weight loss respectively). Insulin requirements and HbA1C were significantly less at follow up in 24 months.
No complications occurred in the peri-operative period and up to 24 months follow up. Quality of life significantly improved in all 3 patients at 24 months compared to pre operative period.

Conclusion:
One anastomosis gastric bypass can be safely performed on patients with T1DM with comparable (if not better) results to Roux-en-Y Gastric Bypass in terms of total weight loss, glycaemic control and improvement in quality of life.
Further investigations, including prospective clinical trials and extended follow-up studies, are necessary to elucidate the full therapeutic value and optimal integration of OAGB in the management of Type1 diabetes mellitus.

Oral

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Validation of the Swiss-Finnish bariatric metabolic outcome score (SF-BARI Score) with combined registry data from Northern-Europe

Floris Bruinsma, Saija Hurme, Sofia Grönroos, Ralph Peterli, Marco Bueter, Erik Stenberg, Johan Ottosson, Villy Vage, Simon Nienhuijs, Ronald Liem, Paulina Salminen

Background:
There is a need for a clinically feasible composite outcome measure for evaluating metabolic-bariatric surgery (MBS) both in scientific and clinical use. The SF-BARI Score was developed based on the individual patient data of two merged randomized controlled trials (RCTs) comparing sleeve gastrectomy (LSG) and Roux-en-Y gastric bypass (LRYGB).1 It accounts for percentage total weight loss (%TWL), improvement of four main obesity-related comorbidities, and surgical complications (score ranges from -100 to 200). Before the score can be widely implemented, it must be externally validated.

Objective:
To validate the SF-BARI Score with combined large prospective registry data from three European countries.

Methods:
All registered patients with complete baseline, 1-year, and 5-year follow-up data were considered for validation, using data from the Dutch Audit for Treatment of Obesity (DATO) and the Scandinavian Obesity Surgery Registries from Sweden and Norway (SOReg-S and SOReg-N). Patient characteristics and SF-BARI score distribution from the merged RCTs were compared to registry data and the correlation with %TWL was tested. Differences in outcomes for LRYGB and LSG were examined as well.

Results:
In total, 21,605 patients were included in the validation. Considerable differences in baseline characteristics existed between the merged RCTs and all MBS registries regarding sex (male 16.1-29.3%), type 2 diabetes (10.3-33.9%), hypertension (19.2-64.1%), dyslipidemia (8.0-45.5%), obstructive sleep apnea (6.9-35.2%), and the rate of LSG (19.4-52.4%). SF-BARI score at 5 years was normally distributed in all registries and the mean ranged from 87.3 in SOReg-S to 101.4 in DATO. The SF-BARI score was higher for LRYGB compared to LSG in all cohorts and showed correlations with %TWL, similar to the data from the merged RCTs. Mean SF-BARI score for the merged registry data was 92.8 versus 89.1 for the merged RCTs.

Conclusion:
Validation of the SF-BARI score in three different cohorts confirmed the SF-BARI score to be a feasible and reliable composite endpoint for evaluating outcomes after MBS. Although the populations were heterogeneous, the score showed important correlation with %TWL in all cohorts while accounting for other relevant outcomes. When determining optimal clinical response outcomes after MBS, the SF-BARI score seems to be more appropriate than %TWL.

Oral

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Vitamin A deficiency after metabolic-bariatric surgery is best predicted by pre-operative serum levels.

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Metabolic-bariatric surgery is the most effective treatment for severe obesity. Post-operatively, patients are at risk of developing nutrient deficiencies, including vitamin A deficiency (VAD). There is inconsistent evidence supporting the post-operative monitoring and management of vitamin A levels. This study aims to determine the prevalence of VAD in people undergoing metabolic-bariatric surgery at pre-operative baseline and annually between 12 and 48 months post-surgery. It also seeks to characterise any predictors of post-operative VAD. Consecutive patients undergoing primary or revisional sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB) and one-anastomosis gastric bypass (OAGB) at one centre were included. Biochemical VAD was defined as ≤1.40 µmol/L and all patients with a result under this threshold were advised to commence vitamin A supplementation. Demographic, anthropometric and laboratory data at baseline and 12-, 24-, 36- and 48- months post-surgery was retrospectively collated from a prospective database. The prevalence of VAD was reported at each study timepoint, and mean vitamin A levels were compared between surgery types using ANOVA. Logistic regression was used to determine predictors of VAD after surgery. Baseline serum vitamin A values were available for 688 (80%) patients at pre-operative baseline. Biochemical VAD was present in 187 (27.2%) of patients at pre-operative baseline. The incidence of new onset VAD peaked at 21.3% for all surgical procedures at 12-months follow-up and declined to 10.2% by 48-months follow-up. Patients who underwent primary SG were significantly less likely to develop VAD post-surgery than any other studied surgery type. Vitamin A supplementation commenced at baseline effectively reversed biochemical VAD in 49.5-63% of patients despite them undergoing metabolic-bariatric surgery in the interim. Pre-existing VAD at baseline was the most consistent predictor of post-operative VAD up to 48-months follow-up. Data from an additional 800 patients is currently being reviewed for inclusion.

Incidence of de novo biochemical VAD up to 48-months after primary SG, RYGB, and OAGB is low. Pre-existing VAD is the strongest predictor of post-operative VAD despite supplement implementation at the time of diagnosis. Supplementation of patients with serum vitamin A levels ≤1.40µmol/L was effective at reversing VAD post-operatively in more than half of all cases during the follow-up period.

Oral

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Vitamin B1 promotes the ubiquitination of ENO1 in hepatocytes through TRIM21 to alleviate obesity-induced metabolic-associated fatty liver disease

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Background:
The incidence of metabolic-associated fatty liver disease(MAFLD), for which there are no approved pharmacological therapies, is increasing, posing a significant healthcare challenge. Herein, based on studies in mice, we found that Intraperitoneal injection with vitamin B1(thiamine pyrophosphate) could have therapeutic potential for the treatment of obesity-induced metabolic-associated fatty liver disease.

Objectives:
To explore the mechanism of vitamin B1 in alleviating MAFLD, and meanwhile to provide new ideas for the treatment of obesity.

Methods:
We examined serum B1 level in patients affected by obesity before/after bariatric surgery, and Vitamin B1 was injected intraperitoneally (150mg/kg, twice a week) into HFD-fed mice for 8 weeks. We then searched for ENO1, the downstream target of vitamin B1, by LiP-MS (Limited proteolysis mass spectrometry). TRIM21, the downstream of ENO1, was identified by COIP. Meanwhile,we established MAFLD mice model in hepatocyte-specific ENO1 overexpressing/knockout by adeno-associated virus type 8- mice. Finally, we injected a compound preparation of semaglutide with B1 subcutaneously into HFD mice to explore the effect of the compound preparation on MAFLD and obesity.

Results:
The serum level of Vitamin B1 decreased in patients affected by obesity and returned to normal two years after bariatric surgery (weight loss). After intraperitoneal injection of thiamine pyrophosphate into HFD-fed mice, the symptoms of obesity and MAFLD were significantly alleviated. The results of CO-IP mass spectrometry suggested that B1 enhanced the ubiquitination and degradation of E3 ubiquitin enzyme TRIM21 to ENO1.Overexpressing of hepatocyte ENO1 aggravated MAFLD in mice that had been relieved after intraperitoneal injection of Vitamin B1, while knockdown of ENO1 reversed the phenotype.Subcutaneous injection of compound preparation of semaglutide-Vitamin B1 is superior to semaglutide alone in HFD-fed mice.

Conclusion:
B1 alleviates obesity and obesity-induced MAFLD. Vitamin B1 combined with semaglutide is superior to semaglutide alone in the treatment of obesity and obesity-induced MAFLD.

Oral

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Vitamin D levels, in correlation with body mass index, gender and ethnicity, in patients with gastrointestinal disorders.

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Betsi Cadwaldar Healthboard Wales

Vitamin D deficiency (VDD) is common and can present as rickets in children, osteomalacia in adults. Recent evidence has also suggested nonskeletal effects of low levels, such as cardiovascular disease, impaired immune system and cancer. Screening for vitamin D deficiency is essential in high-risk patients, including those with inadequate sun exposure, limited oral intake, or impaired intestinal absorption.

The aim of this study is to evaluate vitamin D levels amongst patients, presenting with gastrointestinal disorders (GID), and its association with body mass index (BMI), age, sex and ethnicity. 305 patients, presenting with GID, were assessed for vitamin D levels, using a two-step immunoenzymatic assay (Diasorin Liaison 25 OH Vitamin D total Assay).

Demographic data including age, height, weight, gender, ethnicity and clinical presentation at admission, were collected from the study population. The prevalence of low vitamin D levels amongst patients, with GID, stood at 62%. The prevalence of deficiency amongst patients with IBD and abnormal liver function stood at 71.4% and 60% respectively.

There was a significant negative weak correlation between vitamin D and BMI ($r=-0.13$, $p=0.02$). However, BMI should not be used as a predictor of vitamin D levels, since it predicted only 1.7% of the cases. The male gender was also a risk factor ($p=0.0001$). The Asian ethnicity had a positive influence on vitamin D levels ($B=0.076$, $p<0.0001$). Age was not a risk factor in our cohort ($p=0.29$).

Conclusion:
Due to the high prevalance of VDD in GID, we recommend screening all patients presenting with IBD, IBS, liver disease (hepatitis, cirrhosis and lesions), pancreatic disease, coeliac disease, diverticular disease, gastroesophageal reflux disease, malabsorption and restrictive diseases/surgeries. Levels lower than 25nm/l, should be treated with a loading dose of 50,000IU weekly for 6 weeks, followed by lifelong maintenance treatment of 50,000IU a month. Patients, with vitamin D levels 25-50nmol/l, should be started on a maintanance dose of 50,000IU a month, without the use of loading doses. Patients, with levels greater than 50nmol/l, should be advised on measures to prevent VDD, including sufficient UV exposure and a balanced diet. Patients on long-term treatment do not require routine monitoring

Oral

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Weight loss efficiency on low-dose, slow-loading GLP1 analogue therapy – (liraglutide).

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Background:
The Scale trial (2015) randomized 3731 patients to daily liraglutide 3mg versus placebo. Titration was over 6 weeks. Median weight loss was 10% in approximately 1/3 and 5% in 2/3 of patients. Our experience is that rapid titration is associated with greater adverse events. Patients attending our clinic were titrated to 1.8mg over 6 months as is our usual practise in diabetes. This limits side effects. We observed that there appeared to be optimal clinical response at this lower dose. Full dose liraglutide (3.0mg) costs €280.00/month in Ireland, which is expensive with long-term commitment. If patients achieve better responses at this lower dose (1.8mg) of Liraglutide, this facilitates cost efficiency and may be beneficial with intermittent supply issues that are a worldwide problem.

Objectives:
We wanted to evaluate response in all patients, titrated to 1.8mg over 6 months, assess responder vs non-responders, percentage weight loss incurred (>5%, 5-9% and >10%) and indirectly compare with the SCALE trial outcomes.

Methods:
This was a retrospective review, of all patients starting Liraglutide, from 01/2021-06/2023. All data was evaluated up to 6 months after starting Liraglutide, ending 12/2023. Primary outcome of interest was percentage weight loss at this modified dose.

Results:
97 patients were commenced on Liraglutide.
63.9% (62/97) responded with >5% weight loss.
29.9% (29/97) lost 5% - 9% of total weight.
33.6% (33/97) lost >10% of their weight.
20.6% (20/97) lost 10% -14%.
13% (13/97) lost >15%.
36.1% (35/97) were non-responders (<5% weight loss), including 10.3% (10/97) who lost no weight at all. Median % weight loss was 7.0% and mean percentage weight loss was 7.5% (+/- 5.7%).
Median weight loss (kg) was 7.1kg and mean weight loss was 8.185kg (+/- 6.2215).
On paired t-test, one-sided and two-sided p-values were statistically significant at < 0.001(correlation coefficient variable of 0.946).

Conclusions:
Our results are crudely comparable to the SCALE trial outcome, but more importantly, achieving weight loss at a lower dose (1.8mg). This is important as studies confirm recurrent weight gain on discontinuing drug. We need to be realistic about cost, availability, and efficacy in this unstable market.

Oral

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Weight years - Establishment of a new parameter for the prognosis of obesity-associated diseases

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Background:
Obesity poses a worldwide challenge, impacting more than 650 million adults and serving as a significant risk factor for numerous diseases. However, there has been limited research on the impact of the duration (i.e. years of obesity) and onset (i.e. age of onset) of obesity on the likelihood of developing associated diseases. This study aims to establish a correlation between the duration of obesity (i.e. Weight Years, WY) and obesity-associated diseases.

Materials and methods:
A retrospective analysis of the database from the General Surgery Department at University Hospital Heidelberg was conducted. All patients with a Body Mass Index >30 kg/m2, who presented to the bariatric clinic between January 2012 and March 2020 and whose data were consistently available were included. WY are defined as the number of years the patient has been affected by obesity multiplied by the BMI difference from normal BMI (25 kg/m2) divided by 10. ANOVA was performed to determine whether the means of AOO statistically significantly differed. Binary logistic regression was used to calculate the odds ratio regarding the presence or absence of a comorbidity. Cut-off values for WY associated with a disease were calculated using ROC analysis and the Youden Index. A p-value of less than 0.05 was considered statistically significant.

Results:
1935 patients with a BMI of 48.01±8.05 kg/m2, of whom 1310 were female were included. 46.2% of individuals experienced overweight since childhood. The average number of WY was 66.26±40.48, with 70.3±41.93 in men, significantly more than in women with 64.33±39.64 (p=0.03). Patients with DMT2 had 76.94±44.12 WY. The relative risk of developing DMT2 increased by 1.0% per WY (p=< 0.0001), so that DMT2 can statistically be expected to occur from 70 WY onwards (AUC=0.616; Youden Index: 0.196). A similar trend was observed for more than 10 conditions, including arterial hypertension, gastroesophageal reflux disease or sleep apnea.

Conclusion:
The calculation of WY can aid in risk assessment for obesity-associated diseases. This could also be used to determine the timing of preventive measures or bariatric surgery. However, further studies and prospective observations are necessary to validate this hypothesis.

Oral

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Where anti-obesity medication fits in with bariatric surgery? – what's trending

Thomas Mathews, Raj Shah
University of Kansas Medical Center

Roux-en-Y gastric bypass (RYGB) is an effective weight loss intervention; however, 25-30% have the complication of recurrent weight gain. Anti-obesity medications (OMMs) are interventions to combat recurrent weight gain or to augment further weight loss efforts after RYGB. Historically, OOMs have been underutilized. With new OOMs such as GLP-1 agonists recently, we aimed to investigate recent trends and discrepancies in prescription rates for OOMs following RYGB at a population level.

We conducted a retrospective, single-center study using the SlicerDicer database in Epic. We searched for patients with obesity who underwent RYGB between November 16, 2018 to November 15, 2023. Inclusion criteria were patients diagnosed with obesity prior to surgery. Exclusion criteria included patients with a diagnosis of gastric cancer, esophageal cancer, small intestine cancer, metastatic cancer, intra-/extrahepatic bile duct cancers in order to filter patients receiving RYGB for non-bariatric indications. Additionally, patients were stratified as to whether they were sequentially prescribed an AOM within five years after RYGB. AOM types were defined as the recommended medications by the 2022 AGA Clinical Practice Guidelines on the Pharmacological Interventions for Adults with Obesity.

Of 272 patients who underwent RYGB, 32% (88/272) were started on an OOM. 78% (69/88) patients prescribed AOM were on a GLP-1. 71% (80/113) AOMs were GLP-1 (liraglutide or semaglutide). 56% (63/113) of all OOM were prescribed semaglutide, 15% (17/113) liraglutide, 0.9% (1/113) phentermine-topiramate, 26% (29/113) phentermine, 3% (3/113) naltrexone-bupropion, and none diethylpropion. 27% (48/177) of white patients were prescribed OOM compared to 44% (28/63) of Black patients and 38% (12/32) of Other races. Rate of OOM prescription between females (33%; 69/209) and males (33%; 18/54) did not differ. Figure 1 shows the comparison between prescription rates of OOMs with and without GLP-1.

Black patients had higher prescription rates of AOM within 5 years after RYGB in contrast to white patients with no differences between genders. The majority of patients prescribed an AOM were on a GLP-1 agonist. The popularity and widely known use of GLP-1 agonists appears to be improving AOM prescription rates; however, it is important to ensure that prescribers and patients are aware of other pharmacological treatment options.

Oral

289

Worry, fear or attention? Is the GenZ getting metabolically older prematurely due to obesity?

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Background:
Childhood obesity is on the rise and it is a challenge for future and there is no study to evaluate metabolic abnormalities, incidence, and future risks in GenZ population i.e. patients born in the year 1997 to 2012 with moderate to severe obesity. This is the first study of GenZ in Asia.

Objective:
To study the metabolic and physical health and correlation between demographic, anthropometric and biochemical parameters in the Gen Z population with moderate to severe obesity.

Methods:
184 patients aged between 12-27 years old, 89 males and 95 females, with grade of obesity ≥ I, visiting a single bariatric centre between 2015 and 2023 were investigated prospectively prior to any intervention and the parameters were subsequently statistically analysed using SPSS version29:0. Statistically significant ($p<0.05$) findings were subjected to sub-group corelation.

Results:
Mean BMI is 41.7 ±7.3 kg/m^2 and waist circumference is 118 ± 16.9 cm. The HbA1c is 6.0 ±1.3 % and the post prandial blood sugar and insulin levels are 137.2 ± 48.3 mg/dl and 127 ± 82.6 mlu/ml, respectively. Total cholesterol, triglycerides, high-density lipoproteins, and low-density lipoproteins are 179 ± 40.1, 132.2 ± 78.2, 40.9 ± 10.3, 100.5 ± 31.8 mg/dl, respectively. Vitamin B12 is 229.9 ± 129.5 pg/ml and vitamin D3 17.7 ± 10.8 ng/ml.

Clinically, gynecomastia, pseudo hypogonadism and PCOD are present in 92%, 39.3%, 63.4%, respectively. 36.2% of the patients had pre-diabetes and 16.3% diabetes (type II). Hypothyroidism is found in 12.5% of the patients. The prevalence of OSA is 54.9%, joints pain is 37%, and psychological disturbances is 25.5% among the study population. 75.5% of the patients had more than 3 co-morbidities.

Conclusion:
Gen Z population is found to have more serious metabolic and physical co-morbidities at a pretty early age making the clinicians worry about long term complications and progression of the obesity induced diseases. Action plan for prevention and treatment is necessary for the well-being of this age group that represent the future of the globe.

Video

01

3 incision robot assisted biliopancreatic diversion

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Oregon Health and Sciences University

Background:
Biliopancreatic Diversion is witnessing a renewed interest from metabolic surgeons. The procedure has been adopted within the robotic community and is now preformed in centers throughout the United States. The procedure is technically challenging and requires absolute attention to detail. Pain due to the numerous incisions typically utilized during the procedure influences the length of stay observed by metabolic surgeons. We describe a technique using three incisions to complete a robotic assisted biliopancreatic diversion.

Objectives:
We describe an innovative approach to a classic operation utilizing the robotic platform. Our objective is to identify operative methods that improve patient centered metrics and operative efficiency without compromising safety.

Methods:
Triangulation of the three working robotic arms with the first portion of the duodenum is critical for optimal clinical response of this technique. The typically utilized subxiphoid incision is eliminated by using a liver retraction stitch. The typically utilized assist port is eliminated. It is important to allow spacing between two robotic ports in the event the fourth robotic arm is needed due to intra-operative findings or events.

Results:
We describe a robotic assisted three incision biliopancreatic diversion with successful post-operative course and weight loss. Critical steps during the peri-operative phase are highlighted. Attention is paid to appropriate patient selection, port placement and technical aspects of the procedure throughout the video.

Conclusion:
This technique is a safe and effective way to reduce post-operative pain without compromising efficiency or technical considerations. To successfully reproduce this method, appropriate patient selection, port placement and a liver retraction stitch are critical components.

Video

02

A 42 year old woman with recurrent internal hernia; a video case report

Ali Vahidirad, Mohadesh Ghelichli, Ali Jangjoo
Golestan University of Medical Sciences

A 42 years old woman with a history of laparoscopic Roux en Y gastric bypass on 2017 and suboptimal clinical response, so underwent revision procedure to pouch trimming and "Brolin type" distal bypass by lengthening of Roux limb distalization on 2019. She suffered from occasional abdominal pain after meal.

On 2020 she underwent surgery with diagnosis of internal hernia, and mesenteric defect at Petersen site was closed during surgery. again, she suffered from intolerable pain after meal with the interval of 3 to 4 times per month from 6 months ago. Lab data was normal. abdominal CT scan revealed "whirlpool sign".

Based on this finding, the patient underwent laparoscopy with the diagnosis of internal hernia. At the beginning of the surgery, a noteworthy finding was the presence of chyle in abdominal cavity along with increased peristaltic movements and hyper motility of the small intestine, indicating both gastrointestinal obstruction and venous outflow occlusion.

For better determination of GI anatomy, we first identified the ileocecal valve and then start to retrograde following the common channel. after about 450 centimeters we reached the distal anastomosis. after releasing the small intestine and identifying the location of the defect, we proceeded to close the defect with nylon suture. the patient started liquid diet post operation and the next day she was discharged.

Video

03

A patient with staple line leakage was successfully treated by converting the sleeve gastrectomy(SG) to roux-en-y transit-bipartition(RY-TB)

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Background:
The patient was a 40-year-old female with height of 1.6m, weight of 90kg, BMI of 35.1kg/m2, and hypertension. 50 days after sleeve gastrectomy, the patient developed fever and upper abdominal discomfort, and the CT showed a mass shadow near the fundus of stomach.

Objectives:
For treating the staple line leakage, the surgical treatment was modified to RY-TB to reduce the intra-gastric pressure at the fundus of the stomach.

Methods:
We opened the abscess at the fundus of the stomach and aspirated the pus. Then we separated the adhesions and exposed the antrum. The small intestine was measured from the ileocecal junction, and it was marked at 350cm. Then we measured the small intestine from the Tretz ligament, and the proximal small intestine was measured to be about 210cm. We did a gastrointestinal anastomosis at 350cm from the ileocecal junction. Before performing the GI anastomosis, a gastric tube was placed from the antrum to cardia to ensure the postoperative decompression of leak site. The intestine was dissected proximal to GI anastomosis, and a side-to-side anastomosis was performed between the proximal intestine and the intestine 40cm from the GI anastomosis. We closed the mesenteric defect and Peterson defect. A nutritional feeding tube was placed in the intestine 25cm from the Tretz ligament. The gastric tube and feeding tube were pulled out from both sides of the abdominal wall. Finally, a flushable drainage tube and a common drainage tube were placed at the abscess cavity.

Results:
Upper GI radiography (POD 40) showed that the staple line leakage was not completely healed. Upper GI radiography (POD 70) showed that the staple line leakage was healed.

Conclusion:
Conversion to Roux-en-Y transit-bipartition (RY-TB) is a good choice for treating the staple line leakage after sleeve gastrectomy. The procedure is simple, the tension of GI anastomosis is small, the postoperative intra-gastric pressure was low and the patients could recover well after the operation.

Video

04

A Scopinaro procedure or what else?

Daniel Richard Krawczykowski
Centre Hospitalier Jean Marcel

Background:
Previous hiatal and GERD surgery can challenge most metabolic bariatric surgery. The most efficient procedure for GERD and hiatal hernia is thought to be gastric bypass. Rate of failure after gastric bypass is as high as 50% at 10 years in patients with an obesity IV (BMI>50 kg/m²). Because there is an increased risk of gastric cancer in patient with pernicious anemia linked to the common feature of atrophic gastritis, a regular gastroscopic follow up of patients is mandatory.

Objectives:
To treat a 58 year's old woman suffering from a grade IV obesity (BMI 56.1kg/m² 126 kg/ 1.5m) who had a previous Nissen fundoplication performed by laparotomy and a gastritis compatible with a Biermer disease. Co-severe conditions were hypercholesterolemia and hypertriglyceridemia.

Methods:
After a comprehensive exploration and a multidisciplinary discussion, the patient has undergone a modify "Scopinaro" procedure by laparoscopy preserving 1/3 of the proximal stomach, with a 1m common channel and a 1.5m alimentary limb.

Results:
At 5 years, the patient weigh is 74kg and BMI 33.4kg/m². She has 2 to 3 lose stools a day, no GERD, no abdominal pain, no annoying flatus (She's still working as an administrative officer). Serum albumin and vitamin D are normal, there is no anemia but calcium and vitamin B12 are low and mean corpuscular volume is high.

Conclusion:
Results confirm us that "Scopinaro" procedure was the best option for this patient presenting an obesity grade IV with a previous upper gastric surgery and gastritis that has to be followed. Regular nutritional status is mandatory in this hypoabsorptive surgery.

Video

05

An alternative simplified approach for duodenal transection

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Background:
Transecting the first portion of the duodenum is a frequent requirement for bariatric surgeons. It constitutes a critical step in certain procedures, including biliopancreatic diversion with duodenal switch (BPD-DS), single anastomosis duodenoileal bypass with sleeve gastrectomy (SADI-S) and sleeve gastrectomy plus duodenojejunal bypass (LSG-DJB).

There are currently no specific recommendations concerning the ligation of vasculature supplying the first portion of the duodenum. Some surgeons prefer to ligate the vasculature along the greater curvature and the duodenum for the transection.

However, in light of the prevailing notion that the blood supply to the anastomosis significantly impacts its competence, certain surgeons still favor preserving vasculature, such as branches of the right gastro-epiploic artery, supraduodenal artery, and the right gastric artery. Furthermore, as highlighted in our earlier publication, when employing a linear stapled anastomosis, a longer segment of the proximal duodenum is essential for the safe execution of the anastomosis[1]. In theory, the increased distance from the supplying vasculature in this longer segment may pose a greater risk.

Surgical technique:
Transecting the first portion of the duodenum while preserving its supplying vasculature can be accomplished through the technique of creating a tunneled track behind the duodenum. This procedure is inherently challenging due to its somewhat blinded nature, occasionally posing a risk to the integrity of the duodenal wall or adjacent structures.

However, by utilizing an approach through the plane between the head of the pancreas and the posterior wall of the gastric antrum via the duodenum, the procedure can be significantly simplified. By incorporating the step of exposing the gastroduodenal artery and dissecting the tissues overlying it, the tunneled track can be created by making holes at the infra- and supra-duodenal areas and following the prepared track.

Conclusion:
With our technique, the first portion of the duodenum can be safely transected, preserving most of its supplying vasculature and simultaneously ensuring a sufficient length of the proximal duodenal stump for the anastomosis.

Video

06

Biliary limb stricture with perforation after mesenteric vein thrombosis post Roux-en-Y gastric bypass

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This is a video case report of 58 years old female underwent Lap RYGB with BP limb of 100 cms and Roux limb od 80 cms. She developed Superior mesenteric vein thrombosis on post operative day 7 which was managed conservatively.

On 5th post operative month, she started having nausea and vomiting with pain in abdomen, so upper GI endoscopy was planned in which it was found that she had biliopancreatic limb stricture at JJ site. So CRE balloon dilatation was planned.

On balloon dilatation of strictured segment, there was perforation so it was decided to explore the perforation laparoscopically. In laparoscopy the BP limb had cicatrised to 30-40 cms from 100 cms in primary surgery.

The perforated part was excised and BP limb was joined to common channel. Post exploration patient had collection over Jejuno-jejunostomy site which caused compression and obstruction with remnant stomach dilatation. so patient was explored again and draining/feeding gastrostomy was done and ultimately she settled.

Video

07

Catastrophe of not measuring whole bowel length: severe malnutrition post laparoscopic roux-en-y gastric bypass and its management: a video

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Background:
Malnutrition is a well-recognized complication after Laparoscopic Roux-En-Y Gastric Bypass (LRYGB). In LRYGB, bowel limb lengths vary among surgeons. In literature, normal bowel length ranges between 6 to 10 meters. It is not common practice to measure the whole bowel length during LRYGB.

Objective:
Here we report a case of severe malnutrition and hepatic failure post-LRYGBP, which intra-operatively was diagnosed with extreme short bowel syndrome, and its concomitant management.

Method:
The case data was collected retrospectively including investigation results, findings, hospital course and surgical management. It was reported in a video.

Results:
A 40-year-old female known to suffer from type 2 diabetes mellitus (T2DM) and severe obesity with a BMI of 38 kg/m2. She underwent primary LRYGB. Initial follow-up showed remission of T2DM and good weight loss. 10 months later, she presented with severe malnutrition and hepatic failure. Her biochemical work-up showed severe iron deficiency anemia, severe hypoalbuminemia and deranged liver enzymes. An Abdominal CT scan showed diffuse generalized anasarca, edematous bowel wall and enlarged fatty liver. The patient was kept on Total parenteral nutrition (TPN) and full dietetic support with medical management for 5 weeks, with a slight improvement in her condition. A Multidisciplinary team (MDT) meeting was held and it decided to go for a reversal of gastric bypass to normal anatomy. The Patient was taken for a diagnostic laparoscopy. Intra-operatively there was a large amount of ascitic fluid. On careful inspection, measuring of the common limb was commenced and showed a length of only 100cm. The bilio-pancreatic (BP) limb was followed and it measured 180cm. The Roux limb was measured and it was 70cm. total bowel length was estimated to be 350cm only. Full reversal of gastric bypass to normal anatomy was done laparoscopically without complications.

The patient was discharged after five days in good condition. She was followed up in OPD for up to three months with marked improvement in her condition.

Conclusion:
Malnutrition post LYRGB is not uncommon. Measuring total bowel length during the procedure may help prevent such a complication. Laparoscopic reversal of gastric bypass is feasible and effective in treating these cases.

Video

08

Comprehensive insight into bariatric surgeries complications

Osama Hamed

(Twist After Sleeve Gastrectomy, Revisional Roux-en-Y Gastric Bypass With Intra Luminal Bleeding, Candy Cane Syndrome, Blind Loop Syndrome, Jejuno-jejunal Intussusception, And Internal Hernia)

Introduction:
Bariatric surgeries are transformative procedures designed to aid weight loss and improve overall health. While such surgeries have proven effective for many individuals, it is crucial to be aware of potential complications that may arise during or after the procedures. Such complications range from surgical risks to postoperative challenges, emphasizing the importance of informed decision-making and ongoing medical management for a successful outcome.

Objectives:
Diagnostic laparoscopy for persistent symptoms after multiple bariatric surgeries.

Methods:
A 42-year-old female with a complex surgical history, presented with recurrent severe left upper quadrant colicky pain. After extensive work-up it was determined that patients' symptoms are either related to internal hernia or intussusception at the J-J anastomosis. She was a fitting candidate for diagnostic laparoscopy.

Results:
The surgical approach involved extensive lysis of adhesions and a meticulous exploration of the patient's anatomy. A large candy cane-shaped blind pouch, a consequence of the previous Roux-en-Y gastric bypass, was identified. Its potential contribution to the persistent symptoms led to its careful excision. Additionally, a mesenteric defect and an internal hernia were discovered and repaired using silk sutures. The patient's uneventful postoperative course marked a successful recovery, ensuring continued well-being.

Conclusion:
Awareness of bariatric surgeries complications is vital for informed decision-making and postoperative care. Ongoing communication between healthcare providers and proactive management are essential for a successful outcome. While risks exist, many individuals benefit significantly from the procedure, emphasizing the importance of a balanced understanding and diligent follow-up for optimal health.

Video

09

Conversion sleeve gastrectomy with jejunoileal bypass from one anastomosis gastric bypass: Case report and surgical technique

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Background:
Despite persisting concerns regarding jejunogastric reflux and related malignancies, one anastomosis gastric bypass (OAGB) has gained popularity in the recent years due to its procedural simplicity with long-term weight loss and comorbidity resolution comparable to that of roux-en-y gastric bypass (RYGB). However, literature on the reversal and/or revision of OAGB is limited.

Objectives:
This study aimed to describe the clinical and technical aspects of a patient who underwent conversion sleeve gastrectomy with jejunoileal bypass from OAGB due to suboptimal weight loss.

Methods:
A 38 year-old male patient who had undergone OAGB in September 2016 visited our clinic about 7 years after the initial operation. The patient complained of suboptimal clinical response. Conversion sleeve gastrectomy with jejunoileal bypass was planned. The operation began with transaction of the distal and proximal parts of the anastomosed jejunum, about 10cm distal and proximal from the gastrojejunal anastomosis. Next, the distal portion of the gastric pouch was transected using linear staplers, making sure that the left gastric artery was preserved. Finally, the remnant stomach was transected in the shape of a sleeve using linear staplers, and the remaining gastric pouch and sleeved remaining stomach was joined together by hand-sewn anastomosis. The proximal jejunum was then anastomosed to the ileum at 1.5m distal from the transected distal end of the jejunum using linear staplers. The mesenteric defect was closed using continuous absorbable suture.

Results:
After the operation, the patient recovered uneventfully. Upper gastrointestinal series using gastrografin performed on postoperative day 4 revealed no leaks or kinking. The patient was discharged on postoperative day 5 in stable condition.

Conclusion:
Conversion sleeve gastrectomy with jejunoileal bypass from OAGB is a technically feasible procedure. With the popularity of OAGB on the rise, conversion procedures for OAGB require further investigation.

Video

10

Conversion to roux en y gastric bypass for chronic sleeve fistula

Rana Pullatt

Pt had a sleeve gastrectomy when she was 14 yrs and 7 months, pt had a leak and was treated with drains, stents, pigtails, septostomy, pt was refereed to me and taken to the OR 2 years later and we performed a conversion to roux en y gastric bypass as there was fundus left to construct a gastric pouch. pt has done well postop.

Video

11

Esophagojejunostomy for sleeve leak and gastro-pleural fistula

Sara Bocchinfuso, Jack Sample, Noura Jawhar, Karl Hage, Andrew Storm, Barham Abu Dayyeh, Omar Ghanem
Mayo Clinic

Background:
As bariatric surgery becomes more common, the incidence of revision surgery is anticipated to increase. Given the variety of bariatric surgeries performed, revision surgery may carry unique complexities.

Objectives:
We present a complicated case of bariatric revision surgery for a gastropleural fistula in a patient with a history of sleeve gastrectomy performed for a perforated gastric ulcer complicated by a splenic abscess.

Methods:
A 45 year old female with a BMI above 50 presented to an outside bariatric surgical center with a perforated gastric ulcer which was complicated by a splenic abscess. She was scheduled for an open sleeve gastrectomy and splenectomy at this institution. This procedure was complicated by a sleeve leak which was initially managed with the placement of multiple percutaneous and intraluminal drains. After one year without resolution the patient was referred to our center.

Results:
A CT scan demonstrated a complex left upper quadrant abdominal collection originating from the sleeve. Upper endoscopy revealed a twisted pouch with resulting dilation. Additional intraluminal drains were placed. Following this she represented multiple times with recurrent fevers requiring additional endoscopic interventions. One such intervention was the insertion of a spiral venting device, often used in emphysema, to divert fluid away from the abscess preoperatively. A CT scan performed one year later revealed a complex gastropleural fistula. At this point we educated and consented the patient for revision surgery. Intraoperatively, dense adhesions significantly complicated the case. The stomach tissue could not be spared so the sleeve was resected and an esophagojejunostomy was performed, followed by creation of a jejunojejunostomy. One drain was placed in the operative space. The patient was febrile (38.3 F) postoperatively, however she had a negative postoperative CT scan and was discharged home. At 30 day follow up the patient had no complications.

Conclusion:
Esophagojejunostomy is a viable management option for sleeve leak complicated by gastro-pleural fistula following sleeve gastrectomy.

Video

12

Gastric bypass after placement of esophageal magnetic sphincter augmentation device

Monique Hassan

Obesity is an independent risk factor in the development of gastroesophageal reflux disease (GERD). Esophageal Magnetic Sphincter Augmentation (EMSA) devices are emerging as an alternative solution for treating GERD. However, in patients with severe obesity and GERD, Roux en Y gastric bypass (RYGB) has been an effective surgical procedure to alleviate the symptoms of GERD as it plays a role in significant weight loss without altering the anatomy of the LES.

The patient is a 51 y/o male with a BMI of 40.75 and a previous history of placement of an EMSA device in 2019 who presented with multiple co-morbidities, including T2DM and refractory GERD on BID PPI. His reflux revealed severe GERD and no evidence of hiatal hernia with appropriate placement of the EMSA device.

This video demonstrates a robotic-assisted gastric bypass during which the patient was suspected to have an anaphylactic reaction to the neuromuscular blockade. The procedure was completed; however, the decision was made to leave the MSA device in place.

Postoperatively, he was admitted to the ICU with vasopressor support, which was rapidly weaned. Labs were unremarkable, including markers for anaphylactic reaction to the neuromuscular blockade. CT angiogram was negative for pulmonary embolism, and his ECHO was within normal limits. He remained hemodynamically stable and was extubated on POD 1 and transferred to the ward on POD 2. UGI revealed no evidence of a leak, started on an oral diet, and discharged home on POD 3. He was seen in the clinic one week later, where the drain was removed, and on 1-year follow-up, he was noted to have complete resolution of GERD symptoms, a hemoglobin A1c of 6.4 off insulin, and a BMI of 24.

RYGB remains the most effective surgical procedure for patients with severe obesity, GERD, and T2DM, as it plays a role in significant weight loss, leading to considerable improvement in both conditions. The role of EMSA devices in patients with severe obesity and GERD warrants further investigation.

Video

13

Gastric bypass reversal for excessive weight loss

Monique Hassan

Roux-en-Y gastric bypass has been an effective surgical procedure for sustainable weight loss for over 60 years in patients with obesity. Full reversal of the gastric bypass is rarely performed and is reserved for indications such as neuroglycopenia, short bowel syndrome, and poor tolerance of the gastric bypass presenting as nausea, vomiting, and excessive weight loss.

A 52-year-old female presented with a BMI of 35.77 kg/m2 and history of hypertension, hyperlipidaemia, and gastroesophageal reflux with associated Type II hiatal hernia who underwent uncomplicated robotic assisted laparoscopic Roux-en-Y gastric bypass and paraesophageal hernia repair. Approximately two months postoperatively, the patient had several hospital admissions for abdominal pain, persistent nausea, and vomiting. Extensive work ups including labs, abdominal imaging and upper endoscopy revealed normal gastric bypass anatomy. Laparoscopic cholecystectomy and multiple endoscopies were performed without any improvement of the patient's symptoms. The patient was started on total parental nutrition (TPN) at 7 months post op for continued weight loss as she had lost 63 pounds since surgery (BMI of 23.87 kg/m2). She was started on enteral feedings however, she continued to lose weight. After extensive nutrition and psychological counselling, and discussions regarding excessive weight loss, chronic nausea, and vomiting, the patient elected reversal of her gastric bypass. At the time of surgery, her BMI was 20.66 kg/m2, weight 48 kg, her albumin was 4.3 and total protein 7.8.

This video demonstrates a robotic-assisted gastric bypass reversal during which a recurrent hiatal hernia was noted, and the proximal Roux limb was used to place a feeding jejunostomy.

After the procedure, the patient recovered uneventfully, she was started on enteral feeding on post operative day 1 and was discharged home on day 3. She was seen in follow up where was tolerating tube feeds and oral intake without nausea or emesis, and her weight was improving.

Excessive weight loss after LRYGB is not common however, gastric bypass reversal can be safely performed using minimally techniques in the appropriate candidate. The placement of a feeding jejunostomy allows for early postoperative feeding in patients with persistent nausea and vomiting.

Video

14

Gastric wall necrosis following argon plasma coagulation coupled with endoscopic sleeve gastroplasty and its laparoscopic surgical management

Pooja Unadkat, Muffazal Lakdawala, Amit Maydeo

Background:
Argon plasma coagulation (APC) is a technique used in gastrointestinal endoscopy to induce intentional submucosal tissue injury by thermal ablation of mucosal surfaces. The combination of APC and endoscopic gastroplasty (ESG) seems to potentially enhance the durability of the ESG by inducing more fibrosis in the stomach.

Methods:
We report a catastrophic complication following pulsed APC coupled with ESG for the management of primary obesity and its laparoscopic management.

Results:
A 55-year-old male (Weight - 91.5 Kg, BMI - 29.88 Kg/m2), underwent pulsed APC with ESG for weight loss. Thermal ablation using pulsed APC at a setting of 30 watts and 1.2-L flow per minute was followed by endoscopic suturing to approximate the ablated mucosal surfaces. The procedure was well tolerated, and the patient was started on clear liquids the next day as per usual protocol. Following this he presented with severe abdominal pain, tachycardia and tachypnea, with signs of abdominal tenderness and guarding on examination. Inflammatory markers were elevated. USG abdomen revealed mild ascites. Gastrograffin study showed evidence of an abnormal flow of contrast laterally around the level of the body of the stomach with almost no contrast entering the duodenum. CT scan of the abdomen showed a possible gastric perforation with free fluid in the abdomen. The patient was taken up for a diagnostic laparoscopy which showed diffuse biliary peritonitis and an area of full thickness necrosis of the stomach wall at the level of the body of the stomach.

Laparoscopic management has been depicted in the video.

A postoperative repeat gastrograffin study revealed no leak. The patient recovered from sepsis and was discharged on oral sucralfate, pantoprazole and liquid diet.

Conclusion:
To the best of our knowledge, no adverse events following this procedure have been reported previously in literature. The coupling of APC with ESG is a relatively new technique and requires many more cases to be done and followed up before it can be proposed as a treatment modality along with ESG to enhance weight loss. Early recognition and efficient laparoscopic management could help to salvage such complications arising from this technique.

Video

15

Gastrojejunostomy (R-Y) the best plan for treatment of permanent leak after sleeve gastrectomy

Mohammad Talebpour
TUMS

Introduction:
Leak after Sleeve gastrectomy is an important problem with different approaches to control it. Fortunately, it has decreased from 10% in the first report to 0.5% due to expertise of surgeons, new instruments and oversew of stapler line. The plan of treatment has grown up by endoscopic approach with new instrument including covered stent and pigtail. But in cases with stricture of sleeve mainly at the level of incisura, these methods are ineffective and leak of materials get permanent. This study is going to present the best way for treatment of these types of leak by gastrojejunostomy at the level of leakage.

Method:
All of referral cases of sleeve induced leakage to one bariatric center including in this study (2008 to 2024). After admission the standard protocol of these patients including assessment of nutrition, infection, anatomy of GI tract and general condition perform. If there is stricture at the distal part of sleeve, laparoscopic approach advised. Otherwise the main strategy is to prevent any operation and control of leak mainly achieve by endoscopic approach. By open or laparoscopic access meticulous dissection at the site of leakage from right side start and after release of esophagus and medial part of upper stomach, the fibrotic and dense tissue of the site of leak cut under guide of sizer. After get fresh the edge of open area, side to side anastomosis to jejunum (R-Y) 60 cm distal to Treitz Ligament and side-side anastomosis 60 cm distal perform.

Result:
25 leakage cases during 16 years referred to Laparoscopic and bariatric department, Sina Hospital, Tehran, Iran. 11 cases controlled by non-surgical approach including Drain insertion and washing (3 cases), stent (3 cases), pigtail (5 cases). 14 cases get under operation (11 open and 3 laparoscopic). In all of 14 cases there were prominent narrowing at the incisura, in 8 cases splenectomy performed at the same time due to tense adhesion of gastric wall to splenic artery and vein and involvement of spleen in the cavity wall. There was esophago-bronchial fistula in 3 cases, massive malnutrition in 2 cases, peritonitis in 1 case and stony.

Video

16

Gastrojejunostomy dehiscence post 2 years of OAGB: unusual presentation

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Hope Obesity & Superspeciality Hospital

Background:
Gastrojejunostomy leaks in immediate and late post operative period is a known surgical complication. But almost near total dehiscence after 2 years is rare.

Objectives:
The objective was to find out the reason for this rare occurrence.

Methods:
A 60 year old lady operated for OAGB 2 years back presented with severe abdominal pain and vomiting. On examination she was having tachycardia and tachypnoea. She was dehydrated too.

On abdominal examination she was having tenderness in epigastrium and peri-lumbilical region surprisingly with no guarding or rigidity.

She was immediately resuscitated with IV fluids and subjected to blood and radiological investigations. She had low haemoglobin with elevated WBC counts and was having hypokalaemia and hyponatremia. Rest of the blood investigations were normal. CT scan of abdomen showed infected fluid in the peritoneal cavity.

After correction of electrolytes she was immediately taken for laparoscopic surgery. Lots of infected and bilious fluid was drained and on closer look we found a near total dehiscence of Gastrojejunostomy.

A quick decision was taken to take down the Gastrojejunostomy completely and gastro-gastrostomy was done using endostaplers.
The infected and perforated part of intestine was resected and a side to side jejuno-jejunostomy was done.
Thorough peritoneal lavage with Saloine was given to remove all the infected fluid and pus flakes and Penrose drain was put intraabdominally.

Results:
Post operative recovery of the patient was uneventful and was started on oral sips of water after 24 hrs of surgery and she could tolerate it well. Gradually the oral intake was increased and once the post operative investigations became normal patient was discharged from hospital on 4th POD.

Conclusions:
The exact cause could not be found for this dehiscence since patient was non smoker with no history to suggest marginal ulcer.Patient was poor in follow up which could be a reason for not picking up her problems at an early stage. Also taking down the anastomosis and doing gastro-gastrostomy is the safest way out to treat such condition. Post operative care is of great importance in such cases.

Video

17

Glutack for mesenteric defects closure after RYGB

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Padvoa University Hospital

A new and safe way to close mesenteric defects after RYGB

Introduction:
Internal hernia after laparoscopic Roux-n-Y gastric bypass (RYGB) is still an open issue, ranging from 0-7% when mesenteric defects are closed through 4-17%, without closure.. This closure is usually achieved by non-absorbable sutures, the major drawback being the risk of mesenteric hematomas due to accidental puncture of the vessels running into mesenteric leaves.

With this videoclip we propose to use cyanoacrylate to safely close the mesenteric defetcts after RYGB.

Methods:
In this videoclips we have been using Glutack ™, a cyanoacrylate delivering device conceived for atraumatic mesh fixation in hernia surgery to close mesenteric defect instead of using non-absorbable sutures. The adhesive effects has been tested intra-operatively and the patients were followed-up according to the usual schedule.

Results:
Ten patients with obesity (BMI > 40) undergone to RYGB were treated with with Glutack ™ to close mesenteric defects.

Intra-operative cyanoacrylate application appeared to be feasible, safe, effective and easy-to-use.

Conclusion:
Glutack ™ could be a valid alternative to suture to close mesenteric defects after RYGB.

Video

18

Intestinal Malrotation in a patient undergoing laparoscopic gastric bypass

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University Clinic of Navarra

Background:
Intestinal malrotation is a rare congenital anomaly. In adults, it is very difficult to recognize due to the lack of symptoms. Diagnosis is usually incidental during surgical procedures. There are only a few descriptions of gastric bypass with intestinal malrotation.

Objectives:
To describe a case of gastric bypass performed in a patient who had intestinal malrotation. Identify abnormalities and perform the necessary changes in the original procedure.

Methods:
A 41-year-old female, with a BMI of 42,5 kg/m2, was referred to our clinic for the treatment of obesity to undergo a Roux-en-Y gastric bypass. She had no past abdominal surgical history. Surgery began by creating a 30 ml gastric pouch. The duodenojejunal ligament was not identified, and the abdomen was explored, revealing the pylorus, duodenum, and proximal jejunum in the right upper abdominal quadrant. Malrotation was suspected confirming the presence of Ladd´s bands. Once the anatomy was clarified construction was performed, avoiding the creation of an antiperistaltic anastomosis.

Results:
Roux-en-Y gastric bypass was performed with an uncomplicated post-operative course. Two years after surgery % TWL was 40 with a BMI of 25 kg/m2.

Conclusions:
Patients with malrotation can successfully undergo laparoscopic bariatric surgery. Anatomic variations are uncommon but can be found incidentally during surgery. Surgeons need to be ready and alert to identify these anomalies, which may require an alternative operative approach and technical adjustments. If the duodenojejunal angle is not correctly visualized, there is a risk of creating an antiperistaltic anastomosis.

Video

19

Intraoperative high celiac block to prevent visceral pain after sleeve gastrectomy

Rodrigo Villagran, Antonio Mercandino, Nelson Aros, Barbara Carreno, Nasser Eluzen Gallardo

Background:
Sleeve gastrectomy is a highly effective form of bariatric surgery, widely recognized for its benefits. However, a portion of patients still endure moderate to severe postoperative pain. This pain can stem from various sources, including: induced tissue damage and abdominal wall trauma, discomfort associated with pneumoperitoneum (resulting from factors such as phrenic nerve paralysis, acidic peritoneal, environment gas temperature and humidity, and residual gas volume), and visceral pain, which is particularly challenging to manage with conventional analgesia and often accompanied by autonomic symptoms, notably nausea and vomiting.

Objectives:
The objective of this video is to show how we perform our intraoperative neuraxial block technique in sleeve gastrectomy.

Methods:
The patient is brought to the operating room and anesthetized, positioned supine with arms out. Five total ports are used. The table is then angled in a reverse Trendelenburg position and a Nathanson liver retractor placed. Following dissection of the greater curvature and angle of the his, the primary surgeon, under direct laparoscopic visualization, utilizes a 25-gauge short needle attached to a venous catheter extension, introduced through the left 12-mm port. Subsequently, infiltration is performed in the middle third of the left pillar of the diaphragm using a solution comprising 0.5% bupivacaine at a dosage of 2 mg/kg, combined with 2% lidocaine at 2.5 mg/kg. Once completed, the needle is withdrawn from the abdominal cavity under direct visualization.

We are currently conducting a randomized clinical trial within our institution.

Video

20

Jejuno-jejunostomy stricture post laparoscopic roux-en-y gastric bypass, a dilemma in diagnosis and management: video case-presentation

Alwahhaj Khogeer, Aly Elbahrawy
King Abdullah Medical City

Background:
Nause and vomiting are well-recognized symptoms post Laparoscopic Roux-En-Y Gastric Bypass (LRYGB) with many patients present to the outpatient clinic for it. Causes include Internal hernia, obstruction, strictures, Marginal ulcers, and motility disorders. It is often quite difficult to diagnose the cause.

Objective:
Here we report a case of persistent vomiting post LRGBP, which was intra-operatively diagnosed to have strictures at the level of jejuno-jejunostomy, and its concomitant management.

Method:
The case data was collected retrospectively including investigation results, findings and the surgical management and it was reported in a video.

Results:
A 47-year-old female underwent a revision from Sleeve Gastrectomy to LRYGB for severe reflux. 10 months later, she presented with progressive bilious vomiting and nausea. Upper GI series and EGD were performed and showed no clear cause of the complaints. An Abdominal CT scan with contrast showed no obvious abnormality and no suspicion of internal hernia. The Patient was taken for a diagnostic laparoscopy. Intra-operatively there was no evidence of internal hernia. On careful inspection, there was a suspicion of narrowing at the level of jejuno-jejunostomy. A 36F calibration bougie was introduced orally with guidance and was introduced down to the level of Jejuno-jejunostomy where it showed stricture, and the calibration tube could not pass down to the common channel. The jejuno-jejunostomy was widened using two fires of laparoscopic linear stapler. A methylene blue test showed patent lumen and calibration bougie was passed beyond the level of the anastomosis to the common channel.

The patient was discharged after two days in good condition. She was followed up in the outpatient department with a complete resolution of her symptoms.

Conclusion:
Jejuno-jejunostomy stricture is an uncommon complication post LRYGBP. It can present acutely or late. It is difficult to diagnose using standard imaging modalities. In suspected cases, a low threshold for diagnostic laparoscopy should be warranted. Laparoscopic management of these cases is safe and feasible.

Video

21

Laparascopic management of gastrocolic fistula following gastric bypass

Taher Teimoury, Mohammad Kermansaravi, Shahab Shahabi Shahmiri, Nariman Mehrnia, Masoumeh Shahsavan, Mohammad javad Farzadmanesh
Iran Medical University

Background:
Gastrocolic fistula is defined as an abnormal pathological communication between the epithelialized mucosal layer of the stomach and colon.The rare complication of gastric bypass, such as leakage or complicated marginal ulcer may lead to gastrocolic fistula, which presents with diarrhea, belching with fecal odor, fecal vomiting and weight loss. Laboratory testing and physical examination reveal electrolyte imbalances and severe malnutrition, with some patients even appearing cachexia. The diagnosis of this condition is made by barium enema, upper GI endoscopy, and colonoscopy. Laparoscopic management of this situation Consists of a one-stage gastrocolic fistula resection and reconstruction of the GI tract.

Objectives and method:
A 45-year-old female weighing 100 kg underwent adjustable gastric banding,15 years ago in another center. The banding was removed one year later due to dysphagia. Two years ago, she underwent gastric bypass surgery for severe obesity and lost approximately 30 kg during that time. The type of previous bypass surgery was noted as OAGB in her surgical note. For the past two months, she had experienced frequent, greasy, yellowish diarrhea about 20 times per day, immediately after meals. The diagnosis of gastro-colic fistula was confirmed through an upper GI series and upper GI endoscopy, which revealed a large-diameter fistula to the colon, in the distal part of the gastric pouch. After conducting laboratory tests and starting nutritional support to reach the optimal nutritional status, she was scheduled for Surgery.

Result:

During the laparoscopy, After careful entrolysis, we found an anastomosis between a large,transversely-resected stomach to the jejunum, like a loop gastrojejunostomy. After finding the site of the gastrocolic fistula, it was divided. Transverse Colon Segmental resection was performed and a colo-colic anastomosis was created. The gastrojejunal anastomosis was dismantled and the pouch was resized and a conversional Roux-en-Y gastric bypass was performed.

Conclusion:
Gastrocolic fistula is a rare complication that may occur after gastric bypass.The definitive surgical treatment for gastro-colic fistula treatment is surgical en-bloc resection of the fistula and reconstruction.

Video

22

Laparocopic reduced port sleeve gastrectomy

Charleen Yeo, Aung Myint Oo
TTSH

Sleeve gastrectomy is one of the oldest internationally recognised bariatric procedures to aid in weight loss and metabolic syndrome improvement. This video showcases the reduced port laparoscopic technique for sleeve gastrectomy. The lack of an assistant port mandates a higher technical laparoscopic ability of the surgeon, especially in critical areas of the sleeve gastrectomy operation such as the mobilisation of the fundus near the short gastric vessels. In this video, the authors describe a step by step approach for laparoscopic sleeve gastrectomy, as well as share relevant tips and tricks for the reduced port technique.

Video

23

Laparoscopic Assisted ERCP for CBD stone post OAGB with prior sleeve gastrectomy

Aly Elbahrawy
King Abdullah Medical City

Common bile duct (CBD) Stone after One anastomosis gastric bypass (OAGB) preceded by Sleeve gastrectomy (SG) is having low incidence and therefore it may have been under-reported. In this video, we are reporting a case of Laparoscopic Assisted Transgastric ERCP (LATG-ERCP) for symptomatic CBD stone post OAGB preceded by SG.

We report in a video the management and challenges of Laparoscopic Assisted Transgastric ERCP post OAGB in a sleeved stomach in a patient with symptomatic CBD stone, post SG followed by OAGB.

In this 39 years old man who had SG then 9 years later he underwent OAGB, he presented with Obstructive jaundice proven as CBD Stone. Due to distorted anatomy of the revised SG to OAGB, the described technique of LATG-ERCP was not feasible. Surgery was commenced by performing Laparoscopic cholecystectomy, which was done uneventfully, and the cystic duct was spared for possible Rendezvous procedure, Due to distorted anatomy with the remnant stomach which was merely an antrum a gastrotomy was performed along the antrum of the sleeved stomach. We were not able to face the major duodenal papilla in the usual way, multiple cannulation attempts failed, with guide wire always went preferentially into pancreatic duct, due to awkward scope position. Our last resort was threading a guide wire from the cystic duct which enabled us to do sphincterotomy by rendezvous technique, stone was successfully retrieved, gastrotomy was closed and the whole procedure was completed laparoscopically without conversion to open or an immediate complication, patient recovered and discharged in good condition after 3 days then seen for follow up after two weeks as outpatient and he was doing great.

Due to anatomical changes post bariatric surgeries, classic ERCP was not feasible, LATG-ERCP was the option. If this approach does not work, then transcystic Rendezvous technique is a rescue alternative.

Video

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Laparoscopic conversion of Roux-en-Y gastric bypass with history of sleeve gastrectomy to biliopancreatic diversion/duodenal switch

Fahime Yarigholi, Masoud Rezvani, Seyed Ali Jazaeri
Iran University of Medical Sciences

Background:
Conversion and revision in metabolic/bariatric surgeries are becoming more common in last decade, conversion after two previous surgeries especially in patient with severe obesity can be very challenging and has many technical difficulties.

Objectives:
This study reports a patient with history of Laparoscopic Sleeve Gastrectomy (LSG) and Roux-en-Y Gastric Bypass (RYGB) who presented again with complaint of recurrent weight gain and it was planned to do conversional surgery from RYGB to Biliopancreatic Diversion/Duodenal Switch (BPD/DS).

Methods:
The patient is a 42 years old female who has a history of LSG, 11 years ago and conversion to RYGB 7 years ago due to recurrent weight gain and presented again with recurrent weight gain (BMI: 54.2kg/m^2) and it was planned for conversion to BPD/DS in 2 steps, the first step was conversion of RYGB to sleeve gastrectomy and then completing the BPD/DS that was done a few months apart.

Results:
The first step was performed without any complication and at the 3 month follow up, her BMI reduced to 45 kg/m2.

Conclusion:
In cases with recurrent weight gain, BPD is one of the best options, it's important for a bariatric surgeon to be able to manage and convert different surgery types to each other. Awareness of technical aspects and careful patient selection is critical.

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Laparoscopic reduced port Roux-en-Y gastric bypass

Aung Myint Oo, Charleen Yeo
Tan Tock Seng Hospital

Roux-en-Y gastric bypass (RYGB) is one of the oldest internationally recognised bariatric procedures to aid in weight loss and metabolic syndrome improvement. This video showcases the reduced port laparoscopic technique for RYGB. The lack of an assistant port mandates a higher technical laparoscopic ability of the surgeon, especially in critical areas of the RYGB operation such as the creation of the gastric pouch. In this video, the authors describe a step by step approach for laparoscopic RYGB, as well as share relevant tips and tricks for the reduced port technique.

Video

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Laparoscopic removal of eroded AGB in the stomach and colon

Haider Alshurafa
Prince Sultan Military Medical City

Background:
Gastric band erosion is a well-known though rare complication of laparoscopic adjustable gastric band placement. Band erosion into the stomach and colon simultaneously is extremely rare complication of LAGB and can be asymptomatic with only a few cases reported. There are variable symptoms including abdominal pain, obstruction, recurrent port infections, recurrent weight gain, and some of the patients remain asymptotic, as in the patient presented here.

Objective:
To show the feasibility of laparoscopic removal of simultaneous gastric and colonic AGB erosion.

Method:
Video presentation of laparoscopic removal of simultaneous gastric and colonic AGB erosion. The video will show preoperative works, operative steps, and postoperative images and outcome.

Results:
42 years male post laparoscopic adjustable gastric banding before 15 years with starting weight is 126kg. He has history of fever and abdominal pain at the left lower quadrant was treated conservatively. Later, he has on and off abdominal pain and recurrent weight gain with presenting weight of 104 kg for which he was investigated by CT Scan, upper and lower endoscopy which had showed invasion of the gastric band in the stomach and the tube in the two areas of the transverse and descending colon. The patient has undergone laparoscopic removal. He had uneventful postoperative coarse with no complications after 3 months.

Conclusion:
The laparoscopic removal of simultaneous gastric and colonic AGB erosion is feasible and safe in selected patient

Video

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MAGGI: magentic side-to-side gastro-ileostomy

Michel Gagner, Lamees Almutlaq
Westmount Square Surgical Center

Gastric anastomosis is fraught with complications such as bleeding, leaks and stenosis. Magnetic Compression Anastomosis has renewed the possibility of decreasing such adverse events. A 41 y.o. patient who had a previous Laparoscopic Sleeve Gastrectomy, with a BMI of 49.9 kg/m2, now has a BMI of 38.7 kg/m2 will undergo a second stage procedure: A laparoscopic/endoscopic side-to-side Magnetic Gastro-Ileostomy (MAGGI). This procedure is similar to a stapled/sutured SASI or single anastomosis sleeve-ileostomy. Important technical steps are demonstrated.

A longitudinal super-long magnet made of 3 metallic Neodymium/Titanium parts was delivered by endoscopy using an endoscopic catheter in the first and second parts of the duodenum, under sedation. Radiological confirmation was acceded 2-3 hours later to confirm a jejunal position.

At laparoscopy, with 4 trocars at the umbilical level, two of 12 mm and two of 5mm, using a titanium liver retractor, a laparoscopic magnetic positioning instrument slid the endo-luminal long magnet to 250 cm proximal to the ileocecal valve, previously marked with titanium clips on the ileal mesentery. Gastric adhesions were freed to accommodate a posterior anastomosis, behind the antrum avoiding metal clips and titanium staples. A second super-long longitudinal magnet was placed by gastroscopy against the posterior-inferior gastric antrum; the segments containing the magnets were approximated to initiate progressive compression anastomosis over two weeks. Enterotomies were avoided, to keep full integrity of the gastrointestinal tract. Petersen's large defect, between the transverse mesocolon and the ileal mesentery was closed with a running 2-0 nonabsorbable suture on the left side.

Laparoscopic maneuvers were needed to accomplish accurate bowel measurements, divide adhesions, prevent other tissue interposition, and obturate mesenteric defects. Further radiological studies showed magnets movements after 2 weeks, and gastroscopy 1 month later, confirmed a large and wide patent posterior gastro-ileostomy anastomosis, free of ulcers and inflammation.

MAGGI can be used as a bipartition, bringing an ileal loop with the gastric antrum, it also permits duodenal endoscopic access for bilio-pancreatic pathologies, important proximal gut absorption of micronutrients, and can be easily reversed with linear stapling.

Video

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Magnetic Duodeno-ileostomy (MAGDI) without gastrectomy for type-2 diabetes using a swallowable magnet

Michel Gagner, Lavan Koiava, David Abuladze
Westmount Square Surgical Center

Magnetic Compression Anastomosis (MCA) has been introduced recently to render bariatric and metabolic surgery safer and decrease the postoperative stress response. A 55 years old male patient with a BMI of 35 kg/m2, with Type-2 Diabetes, as demonstrated by baseline glycemia of 233.5 mg/dL and a baseline HbA1c of 8.5% undergoes laparoscopic/endoscopic Side-to-side Magnetic Duodeno-Ileostomy (MAGDI). A swallowable linear magnet was given in the outpatient department followed by gastro-intestinal lubricant. Radiological confirmation was obtained 2 hours later to attest to a jejunum position.

Technical steps are explained in this video. Under general anesthesia and supine position, at laparoscopy, with 4 trocars at the umbilical level, using a non-magnetic liver retractor, a magnetic positioning device slid the jejunal endo-luminal magnet to 250 cm proximal to the ileocecal valve, previously marked with titanium clips on the intestinal mesentery. The greater omentum is divided on the right side with ultrasonic shears to ease tension on the ileal loop in an ante-colic position.

A second longitudinal magnet was positioned by gastroscopy, attached by an endoscopic catheter in front of the endoscope, against the inside of the first part of the duodenum; the segments containing the magnets were approximated to initiate gradual Magnetic Compression Anastomosis over several weeks. Enterotomies were avoided, maintaining the full integrity of the GI tract. Petersen's large mesenteric defect, between the transverse mesocolon and ileal mesentery, was closed with a running non-absorbable 2-0 suture on the left side. A final check of the small bowel eliminates twists and tears. After several weeks (on average 3 weeks), the magnetic pair moves from an enteric position to travel in the colon and gets rapidly eliminated by defecation.

Laparoscopic maneuvers were mandatory to measure adequately an ileal distance of 250 cm from the Ileocecal valve, appose magnets without any tissue interposition, dissect peri-duodenal adhesions, especially after prior cholecystectomy, avoid bowel twisting, split the greater omentum, and provide mesenteric defect closure.

MAGDI can be used as a bipartition, bringing an ileal loop with the duodenum, it also permits duodenal access for biliary pathologies, and proximal gut absorption of micronutrients, and can be reversed with stapling.

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Management of recurrent hiatal hernia after roux-en-y Gastric Bypass (RYGB)

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Background:
Hiatal hernia is a serious complication after Roux-en-Y gastric bypass (RYGB) with an average presentation about 9 to 16 years after the primary surgery. It may be caused due to factors like the small size of the gastric pouch and tissue changes related to rapid weight loss. Symptoms of hiatal hernias after gastric bypass may include chronic symptoms like dysphagia, post-prandial epigastric pain, nausea, and vomiting. In some cases, patients may present acutely with bowel obstruction from herniation of the Roux limb.

Case presentation:
A 59-year-old female with a BMI of 40 kg/m² presented with a complex medical and surgical history, including RYGB 12 years ago. Over two years, she developed progressively worsening postprandial epigastric pains, dysphagia, and abdominal bloating, leading to a fear of eating and multiple emergency department visits. Imaging revealed a type 4 hiatal hernia with a 6 cm defect containing various abdominal structures in the left chest, causing pressure on lung tissues. She underwent two surgeries: initially, reduction of the hernia and repair with biologic keyhole mesh, complicated by acute recurrence with a twisted Roux limb necessitating a second surgery for limb reduction, hiatal hernia repair with inlay mesh and hernia sac removal. Despite initial improvement, she experienced recurrence of dysphagia, prompting esophageal stent insertion, which effectively relieved symptoms. Subsequent stent removal resulted in successful oral intake tolerance, indicating successful management of her complex condition.

Conclusions:
Complete removal of the mediastinal hernia sac is crucial to prevent recurrence in type 4 hiatal hernias, while the management of complex cases necessitates a multidisciplinary approach involving upper gastrointestinal (GI) teams.

Video

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Management of recurrent hiatus hernia with band migration and erosion with gastro-gastric fistula after robotic roux-en-y bypass for hiatus hernia.

Shashank Shah, Elmutaz Kanani, Sushil Kharat
Laparo Obeso Center, LOC Healthcare LLP

Background:
RYGB has been a preferred treatment option for hiatus hernia in patients with severe obesity. There are no definitive guidelines for treatment of recurrence of hiatus hernia after RYGB.

The present case demonstrates treatment of a complicated recurrent hiatus hernia.

Methods:
39-year-old lady with history of robotic hiatus hernia repair with banded RYGB at a BMI of 43.2kg/m2 was referred to our centre, 2 years after RYGB with complaints of vomiting, heartburns, and recurrent weight gain.

Endoscopy and CT scan revealed partially eroded band with erosion into remnant stomach with gastro gastric fistula and herniated pouch in the hiatus.

Results:
Laparoscopic removal of band with upper partial gastrectomy of the remnant, revision of gastrojejunostomy and hiatal repair was performed. Patient became symptom free and lost the regained weight at 1 year after the 2nd procedure.

Conclusion:
Laparoscopic revision of band erosion with fistula is safe and feasible with good results.

Video

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Modified Laparoscopic collis-gastric bypass: The role of the intraoperative endoscopy and indocyanine green

Ruth Lopez-Gonzalez, Sergi Sanchez-Cordero, Andrea De Miguel, Jordi Pujol-Gebellí
Hospital Universitari Moises Broggi

Introduction:
The combined surgical approach of bariatric surgery associated with antireflux techniques has been shown to be the best choice in patients with a body mass index (BMI) over than 35 kg/m2 and severe symptoms of gastroesophageal reflux disease (GERD), with or without a hiatal hernia.

The use of indocyanine green and intraoperative endoscopy are tools that can help the surgeon achieve better outcomes due to enhanced intraoperative safety, therefore leading to an optimal clinical response of the surgery.

Objectives:
Describing the surgical technique of a modified Collis-Gastric Bypass using intraoperative endoscopy and indocyanine green.

Materials and Methods:
A 62-year-old woman with a surgical history of hysterectomy, appendicectomy, and low anterior resection for rectal neoplasia, currently disease-free, was referred to our unit due to severe symptoms of dysphagia and GERD. After conducting manometry and incomplete gastroscopy, a paraesophageal hernia was diagnosed. Her maximum BMI was 37 kg/m2. A combined surgery was suggested: a modified Collis-Gastric Bypass.

First, we started with exploration and reduction of a type III paraesophageal hernia and a cruroplasty. After that, the gastric cavity was checked with an intraoperative endoscopy and then the gastric bypass reservoir was created. We performed the antireflux technique with the gastric remnant, Collis-style. Next, we proceeded with the usual steps of a gastric bypass: creation of gastrojejunostomy, jejunojejunostomy and closure of Petersen's and inter-mesenteric defects. Finally, we used indocyanine green to check the vascularization of the gastric remnant, which was inadequate, which led to a resection of a portion of the remnant. The surgery was carried out laparoscopically, lasting a total of 180 minutes. The patient was discharged on the third day without postoperative complications.

Conclusions:
Combined bariatric and antireflux surgery in patients with a BMI over 35 kg/m2 significantly improves their quality of life. Additionally, the use of indocyanine green and intraoperative endoscopy enhances the safety of the surgery, which translates into improved outcomes.

Video

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Nissen Sleeve gastrectomy with hiatal hernia repair for class 3 obesity and GERD

Jean Sebastien Lanne, Fabien Stenard, Francois Bouchard, Pierre Yves De Queiroz
Clinique des Cedres

Introduction:
Gastroesophageal disease (GERD) is a serious complication, that impairs quality of life and is responsible of recurrent weight gain after sleeve gastrectomy. Post operative de novo GERD can occur in up to 30 % of patients. Laparoscopic sleeve gastrectomy with posterior fundoplication (Nissen Sleeve) is a new procedure which is considered as an alternative surgical approach to treat young patients suffering of severe obesity and GERD.

Objectives:
Single procedure to treat obesity, repair hiatal hernia and prevent worsening of GERD after sleeve gastrectomy.

Methods:
Laparoscopic sleeve gastrectomy, posterior fundoplication (Floppy Nissen), hiatal hernia repair, fluorescence guided surgery.

Results:
Post operative course went uneventful with no short and long term complications. Successful surgical procedure with improvement in GERD symptoms with complete cessation of PPI medication.

Conclusion:
Nissen sleeve gastrectomy with hiatal hernia repair is safe and effective to treat obesity and GERD. It is a reasonable approach that can be included into the panel of surgical procedures.

Video

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Peterson's Hernia was unexpected discovered during laparoscopic exploration in a patient with port site hernia after SG-TB procedure

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Background:
A female patient was admitted to our hospital and was diagnosed with metabolic syndrome. The patient age was 42 years, blood pressure 143/93 mmHg, body weight 103.9 Kg; and underwent sleeve gastrectomy with transit bipartition for treatment. The patient recovered well and was successfully discharged. At the six-month postoperative follow-up, the patient body weight was 81 Kg and blood pressure 131/88 mmHg. Five months after the surgery, the patient developed a trocar site hernia above the umbilicus, accompanied by chronic abdominal pain and bloating, without clinical signs of intestinal obstruction.

Objective:
The patient was admitted for laparoscopic exploration and concurrent trocar site hernia repair.

Methods:
After completing the preoperative examinations, laparoscopic exploratory surgery was performed to investigate the presence of intestinal adhesions, intestinal obstruction, and to examine the trocar site hernia. Laparoscopic observation revealed minor adhesions between the left lobe of the liver and the stomach, and a potential torsion at the gastrointestinal anastomosis, but no significant intestinal dilation was observed. During surgical exploration, the patients was diagnosed with Peterson’s hernia; therefore, the twisted intestinal loop that had protruded through the defect was repositioned, and the Peterson’s defect was closed with barbed suture. Furthermore, the trocar site hernia was repaired using abdominal wall hooks and non-absorbable suture under laparoscopy guidance.

Results:
The patient was stable and discharged two days after surgery without any surgery-related complications. At one-month postoperative follow-up, the patient was in good condition, with the preoperative symptoms such as abdominal pain and bloating resolved.

Conclusion:
1.Trocar incision larger than 10 millimetres should be definitely sutured to avoid postoperative port site hernia

2.Peterson's Hernia (if Peterson's defect was not closed) may occur much more than we expect, but rarely causing intestinal obstruction

Video

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Prepyloric Gastric Outlet Obstruction of the Excluded Stomach as a Late Complication of Roux-en-Y Gastric Bypass

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Hartford Healthcare

Background:
Roux-en-Y gastric bypass, utilized for the treatment of obesity has shown superior weight loss and with reduction of obesity-related mortality and morbidity. It has become the second most-performed bariatric surgery in the United States. Common complications with Roux and Y gastric bypass include cholelithiasis, stricture formation, most commonly at the level of the J-J anastomosis, gastro-gastro fistulas, and marginal ulcers. Gastric outlet obstructions of the excluded stomach are rare with the reported etiologies including malignancy 1, 3, 4, and bleeding/hemobezoar 2, 6. One study reported severe high-grade pyloric stenosis with gastric mucosa metaplasia 5. However, complete gastric outlet obstruction secondary to fibrosis and occlusion at the pre-pyloric area in the remnant stomach to the best of our knowledge is unreported.

Case Presentation:
A 54-year-old female who presented with acute onset of left upper quadrant and epigastric abdominal pain. She described the pain as sharp with associated nausea, poor oral intake, and one episode of vomiting. She had a prior history of retrocolic Roux-en-Y gastric bypass (RYGB) approximately 22 years prior to presentation.

A Computed Tomography scan of the abdomen and pelvis showed fluid fluid-distended stomach with mild wall thickening at the fundus of the stomach with adjacent fat stranding, wall thickening of the pylorus of the stomach with luminal narrowing. IR-guided drainage of her remnant stomach and transgrastric endoscopy was performed revealing severe pyloric stenosis, nearby nonbleeding ulceration, and complete gastric outlet obstruction. G-tube was placed for drainage of gastric contents and PPI was started. Transgastric endoscopy showed complete occlusion of the remnant stomach. Given the patient's complete gastric obstruction secondary to completely occluded pylorus, and non-resolving symptoms, robotic laparoscopic gastrectomy of remnant stomach was performed.

Conclusion:
Complete gastric outlet obstruction is a rare complication of Roux-en-Y. In patients with presentation of acute abdominal pain, it should remain on the differential. This complication presents a unique challenge in patients with reoccurring symptoms and with ruling out gastric malignancies.

Video

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Primary one-anastomosis gastric bypass in situs inversus totalis for severe obesity: video case presentation

Aly Elbahrawy, Alwahhaj Khogeer, Sarah Alkashgry, Ahmad Abdelhady
King Abdullah Medical City

Situs inversus totalis (SIT) is a very rare congenital disease affecting one in 10 000 people. It is characterized by a mirror image transposition of both abdominal and thoracic organs. Diagnosis of SIT is usually made incidentally while investigating for unrelated medical problem. We report a case of a 34-year-old female with severe obesity, weighing 139 kg, height of 172 cm and BMI of 47 kg/m2. The patient was diagnosed with SIT while being investigated for nonspecific abdominal pain . She presented to our bariatric clinic seeking metabolic bariatric surgery. She was evaluated by our multidisciplinary team including cardiology, psychology, anaesthesia, dietician and bariatric surgeon. According to the patient's request we decided to do one anastomosis gastric bypass (OAGB). She underwent all routine complete preoperative workup plus transthoracic echocardiography and computed tomography abdomen, which showed reversal of intraabdominal organs, and accidental finding of follicular nodular hyperplasia on right lobe of the liver.

Surgery was performed successfully without significant changes in the operative time and technique. In standard setup for OAGB with normal anatomy, we usually place the patient in supine position with arms abducted and the operating surgeon performing the entire procedure standing on the right side of the patient using the dominant right hand when utilizing energy, stapling and suturing. Here the primary surgeon was standing on the left side of the patient and trocars applied in mirror image. Four trocars were used as shown in video. Upon entering the abdominal cavity, general inspection confirmed the totally reversed anatomy with the gallbladder located on the left side of the abdominal cavity, the spleen, angle of His and and the greater curvature of the stomach on the right side. The operation started by creation of gastric pouch over 36 Fr bougie. After identification of ligament of Treitz (LT), we created stapled gastrojejunal anastomosis at 150cm of LT.

The patient recovered well and was discharged home on post-operative day one on routine instructions. She was seen in the clinic at one month post-op in good health and 13 kg weight loss.

Video

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Removal of adjustable gastric band 8 years after band-separated gastric bypass and conversion to staple-use gastric bypass with elastic gastric ring

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Republican Public Association Society of Bariatric and Metabolic Surgeons of Kazakhstan

Background :
Laparoscopic Band-Separated One Anastomosis Gastric Bypass (LBS OAGB) is a novel stapleless variant of the OAGB that performed by authors since 2016.

Objectives:
The video shows of clinical case a surgical technique of removal of an adjustable gastric band 8 years after band-separated gastric bypass and conversion to the staple-use gastric bypass with placement of an elastic gastric ring.

Methods:
Patient: 31-year-old female with a BMI of 32,03 kg/m2 presenting with recurrent weight gain, discomfort, and pain in the subcutaneous port area from the Laparoscopic Band-Separated One Anastomosis Gastric Bypass

The patient had LBSOAGB in 2016 due to Severe Obesity. Weight before primary surgery was 121 kg/ BMI 47.26 kg/m2 with a height of 160 cm. After the LBSOAGB procedure, she lost weight to 71 kg/ %TWL 41,3/ %EWL 78.7. After 8 years ago, he notes a return of weight by 10 kg, discomfort, and pain in the port area.

Preoperative upper GI endoscopy and X-ray examination demonstrated no evidence of leakage from the gastric pouch to the bypassed stomach. Due to the patient's elevated BMI and complaints about the subcutaneous port of the gastric band, it was decided to perform a Laparoscopic gastric band removal with the staple use One Anastomosis Gastric Bypass conversion with placement of an elastic gastric ring.

Results:
The patient had no intra- or postoperative complications and was discharged on day 3. On the 4-month follow-up after the revisional procedure, the patient is doing well and lost 6 kg

Conclusion:
Laparoscopic Band-Separated One Anastomosis Gastric Bypass is safe and has comparable results as the standard OAGB. But at the same time, they use massive foreign material, which in certain cases requires revision surgery. In this case, conversion to standard OAGB was demonstrated, which can be successfully and safely used in this type of patient.

Video

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Reversal of roux en y gastric bypass: utilizing the roux limb in response to chronic diarrhea in a patient with previous multiple BMSs

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Background:
Chronic diarrhea following Roux-en-Y Gastric Bypass (RYGB) can significantly impact patient quality of life and reduce the surgery's benefits. Previous multiple bariatric metabolic surgeries further complicate treatment options, necessitating alternative strategies to address gastrointestinal complications.

Objectives:
To demonstrate the feasibility and effectiveness of utilizing the Roux limb for interposition in a laparoscopic reversal of RYGB in a patient with chronic diarrhea and previous multiple bariatric metabolic surgeries. To highlight the importance of thorough evaluation of intestinal limbs and correction of hernial defects in post-revision care to optimize patient outcomes and prevent further complications.

Methods:
A laparoscopic exploration was performed to measure intestinal limb lengths and identify an internal hernia within Petersen's space. The Roux limb was interposed to establish connection between the gastric pouch and sleeve remnant. Intraoperative endoscopy confirmed patency and leak testing. Postoperative imaging and clinical follow-up evaluated outcomes.

Results:
The laparoscopic reversal procedure resulted in the cessation of diarrhea and resolution of abdominal pain. Postoperative imaging indicated normal dye passage, and the patient reported improved quality of life with no complications at one and three-month follow-ups.

Conclusion:
Utilizing the Roux limb for interposition in laparoscopic reversal of RYGB offers a safe and effective alternative to address chronic diarrhea in patients with previous multiple bariatric metabolic surgeries. Thorough evaluation of intestinal limbs and correction of hernial defects in post-revision care are crucial for optimal patient outcomes and complication prevention. Patient education on complications and treatment strategies is essential for successful management.

Video

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Revisional Roux-en-Y gastric bypass for suboptimal weight loss and persistent GERD

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Clinique des Cedres

Introduction:
Roux-en-Y gastric bypass (RNYGB) is a procedure of choice in order to treat patients with recurrent weight gain and gastro-esophageal reflux disease (GERD) after sleeve gastrectomy (SG). Suboptimal weight loss and persistent GERD after RNYGB are unusual. We report a case of redo surgery on a patient with GERD following conversion from SG to RNYGB.

Objectives:
Second redo surgery in a patient suffering of recurrent weight gain and GERD after conversion from SG to RNYGB.

Methods:
Laparoscopic hiatal hernia repair, small bowel measurement, RNYGB distalization, Bilio Pancreatic Limb (BPL) lengthening.

Results:
Immediate post operative course was complicated with extended ileus. Second look procedure at post-op Day 6 was mandatory to rule out a small bowel obstruction on jejuno-jejunal anastomosis. Mid and long term post operative courses went uneventful. Successful surgical procedure with improvement in GERD symptoms with complete cessation of PPI medication and with significant weight loss.

Conclusion:
Laparoscopic revisional RNYGB with hiatal hernia repair and BPL lengthening, although a complex procedure, was effective, with low morbidity, to treat GERD and suboptimal weight loss.

Video

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Robot assisted conversion of RYGBP to BPD-DS.

Rana Pullatt

This is our technique of conversion of a retrocolic Roux en y gastric bypass to a BPD DS. We perform a horizontal gastrectomy of the excluded stomach to achieve the purpose of volume reduction of the gastric conduit and resection of the fundus, reanastomosis of the gastric pouch to the excluded stomach is performed after resection of the gj and resizing the pouch to exclude any fundus in the pouch. We then address the roux limb based on length of the roux limb, if short it is resected, if long it is reconnected to the BP limb. We then perform a tunnel dissection of the duodenum and perform a omega loop technique for the ileoileosotmy.

Video

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Robotic Conversion of Sleeve Gastrectomy to Roux-en-Y Gastric Bypass after Chronic Sleeve Leak and Complicated Gastropleural Fistula

Kathleen Ehresmann, Pavel Mazirka, Crystal Johnson-Mann
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Background:
Complications of metabolic bariatric surgery are associated with increased morbidity and often require a multidisciplinary approach to non-operative management of symptoms, psychological assessment, and nutritional optimization prior to operative intervention. An understanding of complication management and the challenges of operating in a chronically inflamed re-operative field remains a necessary skill for bariatric surgeons. We present a case of chronic proximal sleeve leak and complicated gastropleural fistula following removal of a gastric band and conversion to sleeve gastrectomy that was managed by conversion of sleeve gastrectomy to Roux-en-Y gastric bypass.

Objectives:
We aim to highlight the complex multidisciplinary preoperative management of a patient with a chronic complication of metabolic bariatric surgery and demonstrate the feasibility and intraoperative challenges of robotic conversion of sleeve gastrectomy to Roux-en-Y gastric bypass in a re-operative field.

Methods:
We use intraoperative video to demonstrate the robotic conversion of a sleeve gastrectomy to Roux-en-Y gastric bypass. The patient was informed of the risks and benefits of this operation and consented to the procedure as well as the recording and its publication.

Results:
Using a standard robotic Roux-en-Y port placement, we were able to safely convert a sleeve gastrectomy to Roux-en-Y gastric bypass with minimal blood loss. The patient underwent 3 months of preoperative medical and nutritional optimization and had a 7-day hospitalization for the planned conversion surgery. At one month post-op, he had lost 24 lbs (BMI 30.6), was tolerating an oral diet with adequate protein and fluid intake, and had no post-operative complaints.

Conclusion:
Robotic conversion of a sleeve gastrectomy to Roux-en-Y gastric bypass following chronic sleeve leak and complicated gastropleural fistula can be safely performed following a multidisciplinary approach to preoperative medical and nutritional optimization.

Video

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Robotic Recurrent Para-Esophageal Hernia Repair with the Use of the Left Triangular Ligament, with Concurrent Conversion from Nissen to Gastric Bypass

Noura Jawhar, Jack Sample, Sara Bocchinfuso, Karl Hage, Omar Ghanem
Mayo Clinic

Background:
Several techniques have been proposed for the management of paraesophageal hernias (PEH), including laparoscopic posterior hiatoplasty with the use of biologic mesh or synthetic mesh. These techniques are, however, prone to high complication and recurrence rates. The use of the left triangular ligament is a novel surgical approach allowing for tension-free repair of the PEH and of the anterior residual defect after a posterior cruroplasty.

Objectives:
We present a case of PEH repair with the use of the left triangular ligament and concurrent conversion of Nissen fundoplication to Roux-en-Y gastric bypass (RYGB) in a patient with a history of recurrent PEH following two Nissen fundoplication procedures.

Methods:
A 68-year-old female with a BMI of 36 kg/m2 presented to a tertiary bariatric surgery center with symptoms of reflux, chest pain, and projectile vomiting. Surgical history was notable for a laparoscopic Nissen fundoplication followed by a repeat laparoscopic Nissen for a recurrent symptomatic PEH. The patient was denied any further repeated Nissen procedures for recurrent symptoms by outside institutions.

Results:
Upper endoscopy and esophagogastroduodenoscopy (EGD) confirmed the presence of a large PEH. Intraoperatively, following the anterior and posterior dissection of the hernia sac, the esophagus was completely mobilized with a 2 cm intraabdominal esophagus. Posterior hiatoplasty was performed. More posterior sutures would have angulated the esophagus. The anterior cruroplasty was performed and the left triangular ligament was identified and divided from the liver. The anterior repair was buttressed with the left triangular ligament. This closure serves as a barrier to prevent remigration of abdominal contents into the chest. The patient was discharged home from the hospital on postoperative day two. There was no evidence of radiologic or clinical recurrence on follow-up.

Conclusion:
In the repair of PEH at the time of concurrent conversion from Nissen to RYGB, the use of the left triangular ligament is a feasible and valuable option for the closure of the anterior diaphragmatic defect.

Video

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Robotic-assisted Single Anastomosis Duodenal-Ileal bypass with sleeve gastrectomy (SADI-S) in a patient with obesity type V

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case revolves around a 45-year-old male patient with a current BMI of 62 and comorbidities such as Obstructive Sleep Apnea, GERD, osteoarthritis, and prediabetes. The patient has a surgical history of knee surgery in 1998. The consultation was prompted by the elevated BMI and associated comorbidities, leading to a recommendation for a preoperative liquid diet for one month and an upper GI endoscopy. The preoperative upper GI endoscopy revealed findings of erosive gastropathy, with H. Pylori immunohistochemistry testing negative.

Objectives:
The primary objectives are directed towards addressing the elevated BMI and associated comorbidities through bariatric surgery intervention. The chosen surgical approach involves implementing a Single Anastomosis Duodenal-Ileal Bypass with Sleeve Gastrectomy (SADI-S).

Methods:
The patient underwent a preoperative one-month liquid diet, coupled with an upper GI endoscopy to comprehensively evaluate the patient's condition. The executed surgical intervention, Single Anastomosis Duodenal-Ileal Bypass with Sleeve Gastrectomy (SADI-S), was carried out without perioperative complications.

Results:
Postoperative follow-up included systematic BMI recordings at various intervals. The patient's BMI, initially 62 at the time of surgery, exhibited a significant reduction to 52 at 1-month postoperative, 51 at 3 months, 40 at 6 months, and 33 at 12 months. The patient expressed high satisfaction, highlighting a substantial improvement in overall quality of life.

Conclusion:
The presented case of a 45-year-old male patient, characterized by a BMI of 62 and associated comorbidities, showcases successful outcomes following Single Anastomosis Duodenal-Ileal Bypass with Sleeve Gastrectomy (SADI-S). The tailored bariatric surgery intervention yielded a notable reduction in BMI and garnered the patient's profound satisfaction, signifying a positive transformation in their overall quality of life.

Video

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Roux-en-Y fistulo-jejunostomy for the management of chronic gastro-cutaneous fistula post-sleeve gastrectomy

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Background:
The incidence of gastric fistula after Laparoscopic Sleeve Gastrectomy (LSG), a routine procedure in Metabolic and Bariatric Surgery, ranges from 1% to 2% . Although typically managed conservatively, cases resistant to conservative measures may necessitate surgical management. Laparoscopic Roux-En-Y Fistulo-Jejunostomy (LRYFJ) is a viable option for addressing chronic post-LSG fistulas.

Case Presentation:
A 54-year-old female, BMI 46 kg/m2, post Laparoscopic Sleeve Gastrectomy, experienced a leak requiring re-exploration. Intervention included washout, suture closure, and drain placement, with subsequent development of a gastro-cutaneous fistula persisting for four months. Symptoms included discharge of gastric contents and pus, electrolyte imbalance, pneumonia, and compromised nutrition. Endoscopy revealed a staple-line breach with a small opening at the gastroesophageal junction, while a CT scan identified a linear oblique fistulous tract extending from the gastroesophageal junction to the subcutaneous plane in the left lower abdominal wall, indicative of a post-surgical gastrocutaneous fistula. The patient underwent Roux-en-Y fistulojejunostomy, with an uneventful recovery and a four-day length of stay. The patient tolerated diet advancement as per protocol.

Conclusion:
When conservative management becomes successful in resolving chronic fistulas after Laparoscopic Sleeve Gastrectomy, Roux-en-Y Fistulojejunostomy (LRYFJ) stands out as a promising alternative for achieving fistula closure.

Video

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RYGB with nissen fundoplication (Outcomes with 200 cm RYGB)

Muffazal Lakdawala, Pooja Unadkat

Video

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Simultaneous occurrence of two perforated marginal ulcer after roux en y gastric bypass without any risk factor

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Objective:
Marginal ulcer is one of the common complications associated with Roux-en-Y Gastric Bypass. Perforated marginal ulcer represents a life-threatening complication of marginal ulcers. Risk factors for marginal ulcer formation include smoking, NSAID use, and steroid administration.

Background:
Roux-en-Y gastric bypass is one of the common performed bariatric operation in the United States. Marginal ulcer formation remains a significant complication with an incidence as high as 16%, and up to 1% of all RYGB patients will develop free perforation of a marginal ulcer.our patient didn't have any Risk factor for Marginal Ulcer, yet she presented with two marginal ulcers simultaneously, located on different sides of the gastrojejunal anastomosis.

Patient and method:
A 42-year-old female with a BMI of 40 underwent classic bypass surgery. She had no history of smoking or obesity-related diseases. Six months after her operation, she presented with generalized abdominal pain, fever, and tachycardia. At the time of hospitalization, her BMI was 26, and her weight was 78 kg. Abdominal Xray showed free intra abdominal gas which is suggestive of halous viscus perforation. With the diagnosis of generalized peritonitis, she underwent diagnostic laparoscopy.

There were fibrin and pus in the abdominal space. first adhesions were released.and perforation found in right side of Gastrojejunal anastomosis .the perforation site was closed using absorbable suture. Subsequently, leak test was performed,and methylene blue was visualized on the other site of anastomosis ,indicating an additional perforation on the left part of the anastomosis The second perforation site was also closed, and an omental patch was placed over both perforated areas. finally a carogate drain placed near the anastomosis site.

Result:
On the second day after the operation, the patient was initiated on a liquid diet. She tolerated the diet well, and her general condition improved. She was discharged on the fourth day post-operation. During her third-month follow-up visit, she did not report any problems.

Conclusion:
Simultaneous occurrence of two perforated marginal ulcer after Roux en Y Gastric Bypass is one of the rare complication which can manage by laparoscopic with perforation site closure and omental patch placement. Conclusion

Video

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Sleeve gastrectomy in post-liver transplant with an infrarenal arterial jump graft; technical advices

Hanan Alghamdi
Imam Almana

Background:
Obesity in liver transplant patients is challenging due to the possible technical difficulties of the previous open liver transplant and the medical risk of immunosuppression, healing and infection. However, it imposes the risk of NASH and worse comorbidities.

Objectives:
We present a 36-year-old lady who suffers from obesity (BMI 46) and declined to have bariatric surgery because of a previous cadaveric liver transplant done in 2016 for acute liver failure.

Methods:
Oral PROGRAF (tacrolimus) was not stopped and resumed 6 hours after surgery. And anticoagulation was given. Laparoscopic sleeve gastrectomy performed using three trocars. The sleeve started 2 cm from the pylorus using endo GIA purple over 36 F calibration tube and upper stable line reinforced with barber stitch 2-0. No drain was used.

Results:
Operative time was 160 minutes, estimated blood loss was around 30 cc, and hospital length of stay was 2 days. Three-month follow-ups showed weight loss of 25% EBW and excellent patient compliance and satisfaction.

Conclusion:
Previous liver transplants are not an absolute or relative contraindication to bariatric surgery, however knowledge of medical and technical challenges is advised.

Video

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Slipped gastric band: conversion to Roux-en-Y gastric bypass as a single-stage solution

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Background:
Metabolic and bariatric surgery (MBS) has an established role in the treatment of obesity, its associated co-morbidities and metabolic syndrome. Numerous evidence-based reports also demonstrate the safety and efficacy of MBS in improving long-term survival. One such operation, laparoscopic adjustable gastric banding (LAGB), was introduced as a reversible technique for weight management. The shallow learning curve and short operative time were appealing, and early results were promising. However, adverse outcomes, such as suboptimal clinical response and device-related issues, have since been attributed to LAGB, causing a decline in its popularity.

Objectives:
To emphasize a single-stage treatment of gastric band slippage and acid reflux.

Methods:
The video depicts the case of a patient with a remote history of gastric banding who developed recurrent obesity and debilitating postoperative complications. The patient was experiencing symptoms and had objective evidence of reflux disease in the setting of a gastric band prolapse.

Results:
After preoperative evaluation and education, the patient underwent an uneventful robotic procedure that included removal of the gastric band, conversion to Roux-en-Y gastric bypass, and hiatal hernia repair. She tolerated the procedure well and, within months of surgery, noted a complete resolution of her symptoms, continuing weight loss and improvement in her obesity-related medical conditions.

Conclusion:
Band slippage, recurrent obesity and reflux disease can be safely and systematically treated, utilizing a single-stage conversion to Roux-en-Y gastric bypass.

Video

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Stapler misuse : the burden of a new scrub nurse in your operating room team

Osama Hamed

Introduction:
Bariatric surgery is a Team sport, in order to perform well and achieve the best results, all team members should work together, and everyone should do his part in a perfect way.

Methods:
Here we present a case of laparoscopic sleeve gastrectomy done in the presence of new Scrub nurse without prior Bariatric surgery experience and adequate supervision

Results:
During a routine sleeve gastrectomy in a 38 yrs Female patient with severe obesity, the scrub nurse provided the surgeon with an already used stapler on the third stapler firing, this had resulted in transecting the stomach and profuse bleeding from the gastric edge, this was managed by suturing and application of new stapler closer to the calibration tube than usual, patient recovered well without any complications.

Conclusion:
Bariatric surgery is a team sport, working with experienced team members is essentials to achieve safe and effective outcomes.

Video

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Step- by-step conversion of open vertical banded gastroplasty to roux-en-y gastric bypass- video case report

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Background:
Some adverse effects of Vertical banded gastroplasty (VBG) include recurrent weight gain and Gastroesophageal Reflux Disease (GERD).

Objective:
Surgery after VBG requires more complex and intensive surgical process. This video shoes step by step Conversion from VBG to Roux-en-Y gastric bypass (RYGB)

Methods:
This video shows a 52-year-old woman affected by obesity, who underwent open VBG 7 years ago and then experience recurrent weight gain and GERD.

Results:
She had no postoperative complications.

Conclusion:
Conversion from VBG to Roux-en-Y gastric bypass (RYGB) is the procedure of choice for optimal clinical response and resolution of functional complications

Video

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Surgical approach of a severe dumping syndrome case after LRYGB

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Dumping syndrome is a common symptom after bariatric surgery and is often a challenge for the bariatric surgeon. Some patients develop severe symptoms, even with diet optimization and after trying conservative treatment.

We present a case of a 41-year-old patient, post-LRYGB surgery, presenting with dumping syndrome refractory to all conservative measures. A surgical approach was chosen with manual suturing of the GEA, performing a controlled adjustment of the gastric pouch by laparoscopy. After surgery, there was a significant improvement in symptoms, with a return to the patient's quality of life.

Video

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Surgical considerations of Roux-en-Y fistulojejunostomy for chronic gastrocutaneous fistula after sleeve gastrectomy

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Background:
For patients requiring surgical reconstructive procedures, laparoscopic fistulojejunostomy may be a viable option instead of aggressive management such as gastric resection and reconstruction.

Patient and method:
A 31-year-old woman with a BMI of 36.1 kg/m2 and a weight of 95 kg underwent laparoscopic sleeve gastrectomy (LSG) eight months before referred to our center. She had no history of obesity-related diseases.

In the first week after LSG, leakage was confirmed by an upper GI series. She underwent laparoscopy, abscess drainage, and drain placement. After three months, the drain was removed, but the drain site still had 200 to 300cc drainage per day, which included swallowed food. The upper GI series provided evidence in favor of Gastrocutaneous fistula formation. Despite conservative therapy, including antibiotic administration and endoscopic Ovesco, the patient still had the same drainage from the drain site and complained of LUQ pain. The patient's vital signs were stable, lab data was normal, and an abdominal CT scan and upper GI endoscopy confirmed the diagnosis of gastrocutaneous fistula. Consequently, the patient underwent laparoscopic Roux-en-Y fistulojejunostomy.

At the time of the operation, the patient had a BMI of 24.7 kg/m2 and weighed 65 kg. After exploring the abdomen, the adhesion was carefully released. Then, a 12-French feeding tube was inserted into the fistula, and the fistula tract was detached and released from the abdominal wall. The tract was dissected distally from the stomach, which was then returned to its anatomic position.

Finally, a fistulojejunostomy was performed, diverting 75 cm of BPL. The posterior row of interrupted sutures should be evenly spaced and tied once the row is complete, while the catheter is inserted in the lumen. Then the anterior row of interrupted sutures is placed with knots formed on the outside. Finally, the entire anterior row including the corner sutures is tied. A lateral jejunojejunal anastomosis was created 70 cm from the fistulojejunostomy. The afferent limb was divided horizontally near the fistulojejunal anastomosis. After a leak test, a drain was placed near the fistulojejunostomy.

Conclusion:
The successful outcome of this case suggests that laparoscopic Roux-en Y fistulojejunostomy can be a viable.

Video

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Transformation of vertical gastrectomy to bypass simplified with anterior and posterior hiatal-plasty

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Hospital Civil De Guadalajara Dr. Juan I. Menchaca

The gastroesophageal reflux in the vertical gastrectomy is one of the indications of transformation, mainly when there is migration of the gastric pouch. In this video we want to show the dissection of the esophageal hiatus anterior and posterior with mold and presence of the Fouchet 32fr probe. Subsequently, we follow the technical steps of the simplified bypass, mainly carrying out the anastomosis and finally closing the mesenteric spaces. The patient presents multiple reflux symptoms, and on various occasions difficulty sleeping, the best position will be in the decubitus position. The preoperative steps show that the creation of the valve allows the intracavitary stomach to be maintained with the remission of symptoms, with good food acceptance. The good dissection of the diafragmatic hiatus allows the pillars to be firmly sutured when the hernia weighs less than 5 cm, making it easier to approach the pillars due to the loss of weight.

Video

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Transoral outlet reduction endoscopy and gastric bypass distalization in a patient with recurrent weight gain after bariatric surgery

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
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Background:
This case highlights a 45-year-old female with a current Body Mass Index (BMI) of 34.85, grappling with recurrent weight gain post-pregnancy. The patient's medical history encompasses comorbidities such as Diabetes, hyperlipidemia, and depressive disorder. Notably, she underwent Roux-en-Y gastric bypass in 2020 at a different medical facility, prompting consultation due to concerns about managing weight gain following pregnancy.

Objectives:
The primary objective is to address the challenges associated with recurrent weight gain post-pregnancy in a patient with a history of Roux-en-Y gastric bypass. The focus is on documenting and evaluating the combined approach involving Transoral Outlet Reduction Endoscopy (TORe) of the Gastrojejunal anastomosis and Roux-en-Y gastric bypass distalization within the same surgical procedure. The goals include assessing the safety, feasibility, and short-term outcomes of this comprehensive intervention.

Methods:
The patient's pertinent details, including comorbidities and surgical history, are documented. The diagnostic work-up comprises an Upper Gastrointestinal Endoscopy aimed at assessing the current state of the Gastrojejunal anastomosis. The chosen surgical plan, featuring TORe and Roux-en-Y gastric bypass distalization, is outlined. The specific techniques involved in TORe, encompassing the application of a 10mm rim of Argon Plasma Coagulation (APC) and a 2-0 polypropylene suture, are detailed.

Results:
The Transoral Outlet Reduction Endoscopy (TORe) procedure, including the application of a 10mm rim of Argon Plasma Coagulation (APC) and a 2-0 polypropylene suture, was successfully executed. Postoperatively, the patient reported feeling well, demonstrated tolerance for a clear liquid diet on the first day, and was discharged on the second postoperative day.

Conclusion:
In managing recurrent weight gain post-pregnancy in a patient with a history of Roux-en-Y gastric bypass, the combined approach of Transoral Outlet Reduction Endoscopy (TORe) and Roux-en-Y gastric bypass distalization emerges as a promising intervention. The successful completion of TORe and the patient's prompt recovery suggest the potential effectiveness of this comprehensive strategy. However, ongoing follow-up is imperative to comprehensively evaluate the sustained impact on weight management and overall well-being.

Video

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Unique surgical problems require unique surgical solutions – bariatric revision surgery after an unconventional bypass reversal

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Mayo Clinic

Background:
As bariatric surgery becomes increasingly recognized as the most effective and durable treatment option for patients with obesity, we can anticipate an increase in the incidence of bariatric revision surgeries. Secondary to the diversity of bariatric procedures performed, bariatric revision surgery may not always be straightforward.

Objectives:
We present a complicated case of bariatric revision surgery for debilitating bilious emesis in a patient with a history of an unconventional bypass reversal.

Methods:
A 33-year-old female presented to an outpatient surgical referral center with several months of debilitating bilious emesis and abdominal pain. Bariatric surgical history was notable for a laparoscopic sleeve gastrectomy later concerted to a Roux-en-y gastric bypass (RYGB) for severe reflux. Additionally, the patient later underwent open small bowel resection for an internal hernia and a bypass reversal at an outside hospital, of which the details were unclear and outside records difficult to obtain.

Results:
An upper gastrointestinal (GI) contrast study suggested the patient had a surgical gastrogastrostomy (GG) connecting the remnant gastric pouch to the antrum of a retained gastric sleeve. Upper endoscopy confirmed this unconventional surgical anatomy and showed the gastric sleeve to be a blind-ending pouch. Likely the source of the patient's symptoms, we educated and consented the patient for revision surgery with removal of the retained gastric sleeve and conversion to a bypass based on intraoperative findings. Intraoperatively, two additional stapled jejunojejunostomy (JJ) anastomoses were identified. After resection of the GG and gastric sleeve, enough gastric pouch remained to successfully create a gastrojejunostomy. The previous surgical anastomoses were resected and revised due to proximal bowel dilation and the common channel length was approximately 200 cm. The patient had a negative laparoscopic exploration on postoperative day one due to persistent tachycardia and abdominal pain and was discharged home from the hospital on postoperative day five. At 30-day follow-up, the patient had no symptoms of bile reflux.

Conclusion:
Bariatric revision surgery may not always be straightforward, and surgeons should consider a thorough multidisciplinary evaluation before proceeding with bariatric revision surgery.

Video

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Unusual presentation of Gastrointestinal Stromal Tumor (GIST) at gastroesophageal junction post sleeve gastrectomy

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Background:
Gastrointestinal Stromal Tumor (GIST) are relatively rare, accounting for approximately 0.1-3% of all gastrointestinal tumors. Due to their diverse clinical manifestations and sometimes indolent growth, GISTs can be left undetected for extended periods, leading to delayed diagnosis and potential complications.

Case presentation:
A 31-year old female underwent sleeve gastrectomy (SG) for BMI 38 kg/m2 at another facility. She achieved targeted weight loss post-SG in 12 months while maintaining good health. She presented to our facility 13 months later after SG with a history of multiple episodes of hematemesis in the last 6 weeks. She experienced 3-4 daily episodes of epigastric fullness and pain radiating to the back. The pain was followed by hematemesis with blood clots despite medication and a modified diet. Upper gastro-intestinal (UGI) endoscopy revealed a polypoidal mass at the posteromedial aspect of the Gastro-esophageal Junction (GEJ) along the lesser curvature. Endoscopic ultrasound indicated the lesion arose from the muscular layers. Tissue biopsy revealed spindle cell lesion without atypia, suggestive of GIST. CT scan confirmed intraluminal polypoid nodular growth without an outward extension at GEJ along lesser curvature. The patient underwent complete tumor resection with 1 cm tumor free margins confirmed by frozen section.

Conclusion:
UGI endoscopy should be part of workup before bariatric surgery which can identify such unusual findings and can impact the decision making for the choice of surgery.

Video

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When you see the gastric calibration tube outside the posterior wall of the distal esophagus during laparoscopic sleeve gastrectomy

Osama Hamed

Introduction:
Bariatric surgery is a Team sport, in order to perform well and achieve the best results, all team members should work in together and everyone should do his part in a perfect way.

Methods:
Here we present a case of laparoscopic sleeve gastrectomy done in the presence of new anesthetist without prior Bariatric surgery experience and adequate supervision

Results:
During a routine sleeve gastrectomy in a 34 yrs male patient with severe obesity, the Anesthesia senior consultant had to leave for an emergency call and an anesthesia specialist covered the case, after complete mobilization of the stomach, we asked the anesthesia team to push the gastric calibration tube into the stomach, this took longer than usual and we noticed excessive force being used, careful assessment of the situation identified the Gastric calibration tube outside the posterior wall of the distal esophagus . This was managed with complete mobilization of the distal esophagus, primary repair with fat patch, intra-operative endoscopy to check for repair, followed by routine sleeve gastrectomy and drain insertion. Patient had uncomplicated post-operative course.

Conclusion:
Bariatric surgery is a team sport, working with experienced team members is essentials to achieve safe and effective outcomes.

ePoster

1

1-year outcomes of SADI-S in asina patients with type 2 diabetes mellitus and BMI＜35 kg/m²: experience of a single center

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Backgroud:
There is limited evidence on the efficacy and safety of SADI-S in treating type 2 diabetes mellitus (T2DM) in patients with body mass index (BMI) <35 kg/m^2.

Objectives:
This study aimed to explore the safety and effectiveness of SADI-S in the treatment of T2DM in patients with BMI <35 kg/m^2 in Asian.

Methods:
We retrospectively analyzed the clinical data of 22 T2DM patients with BMI <35 kg/m^2 who received SADI-S treatment, including changes in diabetes-related indicators, weight-related indicators, and patient nutritional outcomes.

Results:
SADI-S was successfully performed in all patients. The incidence of surgical complications was 4.54% (1/22). 1-year post-surgery, there was a significant decrease in BMI from (32.42±2.18) kg/m^2 to (22.11±1.86) kg/m^2 (P < 0.05). The %EWL and %TWL were (145.78±35.97) % and (31.60±6.34) % respectively at 1-year. Importantly, none of the patients were classified as underweight or recurrent weight gain at the end of the study's follow-up period. Overall, the patient's fasting plasma glucose (FPG), fasting C-peptide (FCP), fasting insulin (FINS), HbA1c, and homeostasis model assessment of insulin resistance (Homa-IR) all showed a decreasing trend . The remission rate for T2DM was 94.7% at 1-year (Table 1). The incidence rates of zinc deficiency and vitamin D deficiency 1-year after SADI-S were 38.46% and 30.77% respectively. These rates were significantly higher than before surgery, however, they did not result in obvious clinical symptoms.

Conclusion:
SADI-S is considered an efficient, safe, and feasible surgical approach for patients with T2DM and BMI<35 kg/m^2. Nevertheless, additional research, including potentially multi-center collaborative studies, is warranted to assess the procedure's long-term outcomes.

Table 1. Changes in diabetes-related indicators after SADI-S surgery.

	Preoperative	1-year	P
FPG (mmol/L)	9.93±3.57	5.78±1.74	0.002
FCP (ng/ml)	3.60±1.48	1.74±0.37	0.001

FINS (μIU/mL)	**26.51±14.41**	**5.36±1.84**	**0.001**
HbA1c (%)	**8.76±1.74**	**5.25±0.76**	**0.000**
Homa-IR	**10.85±4.88**	**1.42±0.75**	**0.000**
Remission of T2DM	-	**94.7%**	-

ePoster

2

2-year real world weight loss in patients managed with glucagon-like peptide 1 agonists in a Singaporean institute

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SingHealth

Background:
Glucagon-like peptide agonists (GLP-1a) promise 10-15% total weight loss (TWL), and are being increasingly prescribed as a primary weight loss adjunct. Following mainstream GLP-1a introduction, some have highlighted real world discrepancies in achieved weight loss, a finding anecdotally echoed throughout secondary care weight loss services.

Objectives:
To define real world TWL% at 1- and 2-year timepoints achieved by patients with obesity managed with GLP-1a (Semaglutide or Liraglutide).

Methods:
Through multidisciplinary weight management services in a 1400-bed Singaporean healthcare institute, we retrospectively interrogated weight-loss achieved by consecutively referred bariatric patients managed non-operatively between August 2018 and January 2023. Mixed linear modelling allowed for discrepancies of follow-up frequency, and pharmacy dispensing data allowed for estimates of individual compliance.

Results:
Of 317 patients enrolled, 90 (28.4%) were prescribed GLP-1a for the indication obesity (Liraglutide 64, Semaglutide 15, combination 11). Mean age was 38.8 years, 53% were female, and ethnically patients were of Chinese (43.3%), Indian (16.7%), Malay (14.4%), or mixed (26.7%) origin. Mean BMI was 40.5, comprising 20 Class I, 24 Class II, 33 Class III, 5 class IV, and 4 Class V patients.

At least one follow-up weight was recorded for 78 patients. At timepoints 4-, 12-, 26-, 55-, and 104-weeks, median TWL% from instigation of GLP-1a was 2.1, 3.2, 3.9, 5.4, and 5.2 respectively.
At the 104-week timepoint, 67.6% achieved weight loss. Those achieving >15% TWL accounted 18.9%, and >20% TWL 8.1%.

No statistical TWL% difference was seen between Semaglutide, Liraglutide, or dual therapy.
As measured by proportion of days covered (PDC), mean compliance was 88.5%. No statistical difference in TWL% was seen between those with > or < 75% PDC.
Median drug supply was 309.5 days. No TWL% difference was observed between those receiving <100 or >365 days, nor was there statistical difference in patients unable to tolerate maximal doses.

Conclusion:
Despite high drug compliance, TWL% is well below published trial data estimates. Whilst these outcomes need to be replicated with greater power in a multicentre model, initial findings would strengthen the argument for metabolic surgery becoming the primary approach in surgically fit patients.

ePoster

3

5-year outcomes of sleeve gastrectomy for teen-agers in Korea.

Sang-Moon Han
Seoul Medical Center

Introduction:
Sleeve gastrectomy is the most performed effective treatment modality for severe obesity. However, 5-year results in teenagers have not been investigated in Korea.

Objectives:
This study aims to evaluate the long-term effects of sleeve gastrectomy on teenagers. In addition, we will expand indications to 15 years of age.

Methods:
We retrospectively reviewed teenagers who underwent sleeve gastrectomy from 2005 to 2023. We evaluated weight loss, co-morbidities change, and complications.

Results:
24 patients who underwent sleeve gastrectomy were included. The mean age at the time of surgery was 18.0 ± 0.9 years. The mean weight was 114.2 ± 19.3 kg and the mean body mass index (BMI) was 40.5 ± 4.9 kg/m^2 preoperatively. The BMI in the postoperative first, third, and fifth year was 25.3 ± 3.6, 25.5 ± 4.6, and 28.6 ± 4.7, respectively. The percentage of total weight loss in the postoperative first, third, and fifth years was 36.9 ± 6.8, 38.1 ± 8.8, and 33.1 ± 7.7, respectively. The percentage of excess BMI loss (%EBL) in the postoperative first, third, fifth years was 89.6 ± 19.4, 89.5 ± 23.5, and 74.3 ± 19.1%, respectively. There was no 30-day peri-operative mortality. After sleeve, 5 (20.8%) patients developed gastroesophageal reflux disease, 1 (4.2%) anemia, and 2 (8.3%) gall bladder stones.

Conclusion:
These findings show that sleeve gastrectomy is a safe and effective bariatric-metabolic surgery option for teenagers in Korea. Based on this result, it will be extended to 15 years of age.

ePoster

4

A case of Dietary Interventions for Patients with Class V Obesity Undergoing Sleeve Gastrectomy

Ayu Okumura, Seiichi Kitahama, Mitsuhiro Sumitani, Rieko Tanaka
Chibune General Hospital

Objective:
Reports of Class V obesity in Japan are rare, and careful attention to nutritional management is necessary. We report a case where preoperative weight loss was achieved through team-based medical care, and the patient successfully underwent the postoperative course without complications or early recurrent weight gain by adhering to guideline-based dietary therapy.

Case Report:
A 38-year-old male, weighing 273.8 kg with a BMI of 86.8 at first visit, had a medical history of diabetes, hypertension, hyperuricemia, and sleep apnea syndrome. He had no history of weight loss attempts and was referred to our weight loss clinic for treatment. Through monthly outpatient visits, dietary counseling, diet therapy using food diaries and Food Diaries (FD), the estimated energy intake had decreased to about ⅓. Additionally, continued medication and exercise therapy, he achieved a preoperative weight loss of 38 kg over 2 years. Laparoscopic sleeve gastrectomy was performed, followed by nutritional management in accordance with the ASMBS guidelines. One year postoperatively, he weighed 191.2 kg, achieving a %TWL of 30.2 and a %EWL of 42.4, with medications discontinued. Treatment was started due to low vitamin B12 levels, but no other malnutrition was detected. The patient continued to progress without any recurrent weight gain two years postoperatively.

Conclusion:
By implementing dietary therapy prior to surgery aimed at correcting eating habits, the patient managed to progress without serious nutritional deficiency postoperatively. Detailed monitoring and appropriate guidance interventions suggest that optimal clinical response for primary procedures is possible in class V patients with obesity.

5

A case of laparoscopic post-sleeve RYGB reversal to normal anatomy

Sang Hyun Kim, Seung Wan Ryu, Dong-Seok Han, Han Hong Lee
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The video shows our laparoscopic technique of the reversal of post-sleeve RYGB that was performed for severe protein deficiency and postprandial hyperinsulinemic hypoglycemia.

A 64-year-old man had laparoscopic sleeve gastrectomy due to severe obesity with hypertension, dyslipidemia, obstructive sleep apnea, and musculoskeletal disease 4.3 years ago. After then, he had intractable gastrointestinal reflux disease with intrathoracic sleeve migration. Therefore, he underwent laparoscopic conversion of sleeve gastrectomy to RYGB 1.5 years ago. His symptoms were recovered after conversion; however, he had protein malnutrition, postprandial hyperinsulinemic hypoglycemia, and steatorrhea 6 months ago. His new symptoms were not controlled well by medications, I performed laparoscopic reversal to normal anatomy. After exploration of the anatomy, adhesiolysis and division of gastrojejunostomy was done. Then, gastro-gastrostomy of 3cm was done by 2-layer handsewn method. Lastly, proximal end of Roux limb and proximal jejunum just distal to Treitz ligament were anastomosed by linear stapler. He was discharged uneventfully on post-operative day 4. At 1-month follow-up, there were no hypoglycemic event and increased albumin level.

Reversal of post-sleeve RYGB is not reported as far as I know and can be performed safely with few small bowel sacrifices.

ePoster

6

A drastic change to post-bariatric surgery practice – where we stand on pharmacological intervention

Thomas Mathews, Raj Shah
University of Kansas Medical Center

Sleeve Gastrectomy (SG) has become the most popular surgery to treat obesity. The use of anti-obesity medications (AOMs) can improve the overall outcomes of patients following SG by augmenting weight loss or treating recurrent weight gain. However, their use is historically underutilized at 3.5%. We aimed to investigate variations and demographic discrepancies in prescription rates in patients with obesity for AOMs following SG and assess whether prescription rates have changed given the enhanced efficacy of newer AOM agents.

We conducted a retrospective, single-center study, using the SlicerDicer database in Epic. We searched for patients with obesity who underwent SG from November 22, 2018 to November 21, 2023. Inclusion criteria were patients diagnosed with obesity via ICD-10 or having BMI > 30 kg/m2 prior to surgery. Also, patients were filtered for whether they were prescribed an AOM within five years after SG. AOM types were defined by using endorsed medications from the 2022 AGA Clinical Practice Guidelines on the Pharmacological Interventions for Adults with Obesity. Demographics were also recorded.

983 SGs were performed. 269/983 (27%) of patients with obesity were prescribed an AOM following SG. 70% (187/269) of the patients were on a GLP-1 agonist. 232/399 (58%) of the prescribed AOM's were GLP-1 agonists. 41% (165/399) of AOM prescriptions were semaglutide, 17% (67/399) liraglutide, 2% (8/399) phentermine-topiramate, 37% (147/399) phentermine, 3% (11/399) naltrexone-bupropion, and 0.3% (1/399) diethylpropion. Regarding race, 39% (87/222) of the Black population started AOM versus 24% (161/676) of the white population within 5 years after SG. However, 60% (139/232) of all GLP-1 agonists were prescribed to white patients versus 33% (76/232) to Black patients.

In comparison to previous studies prior to GLP-1 agonists for obesity, AOM prescription rates within five years after SG have increased by eightfold. GLP-1 agonists have become the most popular AOM following SG (58%). However, if patients who were started on GLP-1 agonists were excluded, 14% of patients would have been prescribed AOM following SG, demonstrating an increased awareness in pharmacological management of obesity following bariatric surgery. The Black population is at an increased risk for needing to start an AOM in comparison to white patients.

patients would have been prescribed AOM following SG, demonstrating an increased awareness in pharmacological management of obesity following bariatric surgery. The Black population is at an increased risk for needing to start an AOM in comparison to white patients.

ePoster

7

A mid-term follow-up report for Single-Anastomosis Sleeve Jejunal (SASJ) bypass in the Middle Eastern population

Mohammadtaghi Rezaei
Mehrad General Hospital

For the current study, the 18-month follow-up data of 43 patients with severe obesity who underwent SASJ from January 2016 to April 2019 was collected. The primary outcome measures were demographic data, weight change variables according to ideal body mass index (BMI) of 25 kg/m2 at 6,12 and 18 months follow-up, laboratory assessments (including serum levels of hemoglobin, vitamin D, albumin, ferritin, vitamin B12, folic acid, and zinc) at 12 and 18 months, remission of obesity-associated medical problems (i.e., T2DM, hypertension (HTN), and hyperlipidemia (HLP)), and other potential bariatric complications 18 months after the surgery.

SASJ bariatric surgery is accompanied by promising outcomes in excessive weight reduction and improvement of comorbidities and is associated with minor postoperative complications and nutrient deficiencies. SASJ outcome in 12 and 18 months after surgery is near to other combined bariatric procedures (i.e., Roux-en-Y gastric bypass and SASI). However, this needs more investigation.

ePoster

8

A new model for predicting remission rates of type 2 diabetes after sleeve gastrectomy: ABID (age, BMI, fasting insulin level, and disease duration

Yue Wang, Liesheng Lu, JIangfan Zhu

Background:
No precisely model is available to predict diabetes regression after bariatric surgery.

Objective:
To retrospectively analyze the effect of sleeve gastrectomy (SG) on patients affected by obesity with type 2 diabetes mellitus (T2DM), explore the factors affecting diabetes remission, and construct a prediction model.

Methods:
We collected the clinical data of 46 patients affected by obesity, with T2DM who underwent laparoscopic sleeve gastrectomy at the Shanghai Tenth People's Hospital from July 2014 to October 2021 and had complete follow-up data. The patients' age, body weight, BMI, duration of disease, preoperative fasting glucose, C-peptide, insulin, and glycated hemoglobin levels were counted before LSG. And the BMI, fasting glucose, C-peptide, insulin, and glycated hemoglobin levels of the patients at one year after surgery were counted.

Results:
One year after the operation, the patients lost a total of 33.95±19.5Kg of body weight, and the remission rate of diabetes mellitus was 87.0%. The results of univariate analysis suggested that patients with young age, small BMI, and low fasting insulin and C-peptide levels had better postoperative glycemic relief. After dividing the training and validation sets by the "leave-one-out" method, the prediction accuracy of both ABID and ABCD methods was 0.934; while dividing the training and validation sets by the 8-2 ratio, the AUC of the validation set (ABID method) and the AUC of the validation set (ABCD method) were 0.786 and 0.714, respectively; and dividing the training and validation sets by the 7-3 ratio, the AUC of the validation set and the AUC of the validation set were 0.786 and 0.714, respectively. The validation set AUC (ABID method) and validation set AUC (ABCD method) were 0.792 and 0.750, respectively; the validation set AUC (ABID method) and validation set AUC (ABCD method) were 0.792 and 0.750, respectively, when the training and validation sets were divided by a 6-4 ratio.

Conclusion:
The treatment of obesity combined with T2DM with LSG is highly effective and safe. It is effective and safe. Age, BMI, fasting insulin and C-peptide levels were independent influences on diabetes remission after LSG. And for the prediction of the remission rate of diabetes at 1 year postoperatively, the predictive efficacy of ABID (Age/BMI/Insulin/Duration)

ePoster

9

A review of bariatric tourism and post-operative referrals to a single tertiary bariatric surgery centre in the UK.

Sara Ajaz
Homerton Healthcare NHS Foundation Trust

Background:
There continues to be an increasing trend for the British people with obesity to go abroad in search of swift low-cost bariatric metabolic surgery. In September 2023 British Obesity Metabolic Surgery Society issued a statement advising caution to these patients. Nonetheless, referral challenges and lengthy waiting times on the National Health Service (NHS) continue to be a driver to go abroad.

Objectives:
We decided to review data of post operative referrals to our Bariatric Surgery Service in the last year in comparison to the year before to report if the numbers of post-operative referrals are increasing, decreasing or have plateaued.

Methods:
We collected data from electronic referral service (eRS) and email referrals over a period of one year between late March 2023 till early March 2024 and compared with the data collected the year before.

We have devised a Post Operative referral proforma filled in by the General Practitioners (GP) which identifies at the time of referral: the referral reasons, Bariatric Surgical procedure performed, most popular destination for surgery and if the referring GPs have read the British Obesity Metabolic Surgery Society (BOMSS) guidance on the management of post operative patients in the primary care.

Results:
Between late March 2023 and early March 2024 a total of 302 referrals were vetted with 134 proformas filled.

	2023-2024 Referrals:302 Proformas filled:134	2022-2023 Referrals:292 Proformas filled:96
GPs who have read BOMSS guidelines	118/134(88%)	77/96(80%)
Referral for surgical complication: abdominal pain, vomiting, reflux.	23/134(17.1%)	26/96(27%)
Referral for dietetic review/routine follow-up	102/134(76.1%)	62/96(65%)
Referral for recurrent weight gain	15/134(11.1%)	Not Recorded

Commonest destination for surgery-Turkey	73/134(54.4%)	52/96(54%)
Commonest procedure-Laparoscopic Sleeve Gastrectomy	96/134(72%)	65/96(68%)

Conclusions:
At our centre, bariatric post-operative referrals continue to increase, with most of these referrals for routine dietetic advice and less so for surgical intervention. There is a need for appropriate guidance and policy to help support the GPs to manage routine post-operative cases in the community with a view to reduce demand on the Bariatric Centres.

ePoster

10

A review of public funded laparoscopic sleeve gastrectomy (LSG) in the ACT from 2017 to 2022: patient demographics and outcomes and

Deborah Inman
Canberra Health services

Background:
Over 90% of primary metabolic bariatric surgery in Australia is performed in the private setting, with variable provision of metabolic bariatric surgery in public settings across states and territories. In 2014, the ACT government announced limited funding for the provision of primary LSG to patients engaged with the public Canberra Obesity Management Service (COMS). COMS is a public medically led multidisciplinary service that provides assessment and treatment of class III obesity with comorbidity to residents of the ACT and surrounding New South Wales catchment. COMS contributes to the Monash Bariatric Surgery Registry (BSR).

Objectives:
To review the provision of LSG, and outcome (%TWL, BMI class, mortality) of public funded LSG from a COMS with comparison to published Australian registry data (BSR).

Methods:
Retrospective chart review of patients accessing public funded LSG from the period 2017-2022. Baseline patient demographics, anthropometric data, co-morbidity and mortality were collected at available time points. Low risk ethics approval was obtained (HREC 2023/ETH01396).

Results:
Since the first procedure in 2017, 109 public LSG were performed in the ACT. Data completeness was limited by telehealth appointments during COVID however 72% of 12 month post surgery data was available, which is comparable to BSR. 76% of patients were female, with average age 47 years (range 18-62y, SD 10) and mean baseline BMI 49kg/m2 (range 33.8-85kg/m2) . 90% of patients had class III obesity compared to 83.1% of public BSR patients, and 63.9% private BSR patients. 32% had diabetes compared to 13.8% BSR patients. Median EOSS was 2 (range 1-4). 9% of patients identified as Aboriginal and/or Torres Strait Islander, or were from a culturally and linguistically diverse background. No deaths were recorded. Mean %TWL at 12 months was 21% (SD 13). Post bariatric surgery 32.8% of patients remained in the class III obesity range.

Conclusion:
The patient cohort accessing public LSG in the ACT are older, have a higher proportion of class III obesity and higher burden of diabetes compared to published registry data. Average %TWL since procedure is below that of published registry data, and may reflect the higher complexity of our patient demographic.

ePoster

11

A single centre experience with one-anastomosis gastric bypass (OAGB)

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SingHealth

Background:
One anastomosis gastric bypass (OAGB) has been recognized as a form of Metabolic Bariatric Surgery (MBS) for the treatment of severe obesity. Increasingly more institutions are utilizing OAGB as a form of MBS for weight loss and management of obesity-related complications.

Objectives:
The study aims to look at the initial experience in our institution with the use of OAGB as a form of MBS for the treatment of severe obesity.

Methods:
This study presents a single centre experience with OAGB which was restarted in our institution since January 2023. We retrospectively evaluated a case series of 13 patients who underwent OAGB between January and December 2023.

Result:
A total of 13 patients underwent OAGB from January to December 2023. There were 6 male patients and 7 female patients. The median age was 41 (Range 30 - 59). The mean BMI was 51.2 +/- 10.5. At 3-month follow-up review, the percentage of total body weight loss (%TBWL) was 17.5 +/- 4.8%, the percentage of excess weight loss (%EWL) was 34.4 +/- 10.5%. 1 patient suffered anastomotic leak requiring a second revision surgery. 1 patient had suspected thiamine deficiency as a result of hypoabsorption post operation.

Conclusion:
In conclusion, the short-term outcome for OAGB in our institution was encouraging. Further comparative study is required for it to become a standardized procedure in our institution.

ePoster

12

A systematic review of bedside stapling in robot-assisted metabolic bariatric surgery

Juliane Hafermann, I-Wen Pan, Marianne Huynh
Medtronic

Background:
The optimal clinical response of metabolic bariatric surgery (MBS) is enabled by surgical stapling. Conventional laparoscopic staplers are commonly used in robot-assisted MBS, even though robotic staplers have been available for some time. The reason for this choice often remains unmentioned.

Objectives:
To better understand the use of laparoscopic staplers in robot-assisted MBS, we performed a systematic review focussing on laparoscopic staplers produced by Medtronic, one of the leading stapler manufacturers.

Methods:
PubMed and EMBASE were systematically searched for studies reporting the use of Medtronic staplers in robot-assisted MBS published between January 2013 and October 2023. The primary outcomes were the type of stapler, the tissue it was used on, and the reason for preferring a laparoscopic instead of a robotic stapler. Secondary outcomes included operation time, post-operative complications, and length of stay. Primary outcomes were reported as percentages of patients treated with laparoscopic staplers in robot-assisted MBS in the included studies, secondary outcomes were calculated as weighted average ± weighted standard deviation.

Results:
The systematic review identified seven studies involving 866 patients from Spain, Italy, France, Turkey, and the USA who were treated with robot-assisted sleeve gastrectomy (62.4%), Roux-en-Y gastric bypass (RYGB) (37.5%), or reversal of omega-loop gastric bypass to normal anatomy (0.1%). All staplers used were laparoscopic mechanical linear staplers. The vast majority used stapler loads technology (99.9%), and some used the smart stapling system (11.0%). None of the studies reported a reason for the preference of using a laparoscopic stapler. Stapling was used to create the gastric sleeve in sleeve gastrectomy, the gastric pouch and division of the Roux-en-Y small bowel montage in RYGB, and to transect the gastro-jejunostomy in the reversal of the omega-loop gastric bypass. One study used the staplers during resident robotic procedure training, another for a modified RYGB procedure with the ‘Double Loop” technique. Due to the variety of stapling applications, reporting composite values for the secondary outcomes was not feasible.

Conclusion:
In robot-assisted MBS, linear laparoscopic staplers are mainly used for the creation of gastric sleeves and pouches, although why they might be preferred to robotic staplers remains unclear.

ePoster

13

Analysis of revisional bariatric surgery for the treatment of gastroesophageal reflux in patients with sleeve gastrectomy

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Rede Materdei de Saúde

Background:
Metabolic Bariatric Surgery is widely accepted as a safe and effective intervention for weight loss in patients with obesity. Sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB) are two disseminated techniques. As the practice of bariatric surgery expands, there is a growing need to understand and optimize revisional bariatric surgery. Gastroesophageal reflux disease (GERD) is a common indication for revisional bariatric surgery, particularly in patients who underwent sleeve gastrectomy as their primary surgery and may be associated with other factors such as recurrent weight gain. Evidence in the literature suggests that conversion to RYGB is a successful treatment for GERD in these patients.

Objectives:
The aim of this study is to analyze the outcomes of revisional bariatric surgery by converting SG to RYGB in patients who developed GERD as a long-term complication.

Methods:
A retrospective study of patients who underwent revisional bariatric-metabolic surgery for GERD was conducted from 2019 to 2023 through the analysis of medical records by a team of surgeons who are members of the Brazilian Society of Bariatric and Metabolic Surgery.

Results:
Between 2019 and 2023, our department performed revisional surgery on 81 patients who had undergone surgical treatment for obesity. Among them, 23 patients underwent SG-to-RYGB surgeries to treat GERD. Furthermore, 86.9% of the patients experienced recurrent weight gain after sleeve placement. The sample consisted of 18 female patients with a mean age of approximately 40 years. The interval between the initial and subsequent procedures was approximately 10 years. After surgical reapproach, all patients reported an improvement in symptoms of GERD, and a optimal clinical response was observed at 1 year, with an average of 21.84% decrease of their initial weight.

Conclusion:
It has been observed that revisional bariatric surgery may be an effective alternative treatment for chronic complications resulting from the primary surgery, particularly GERD. It is also important to have adequate multidisciplinary follow-up in order to optimize outcomes in these patients.

ePoster

14

Analyzing the effectiveness of pre-operative psychiatric evaluation prior to metabolic bariatric surgery: a 14-Year retrospective study

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Background:
Pre-operative psychiatric evaluation (PPE) is a standard component of metabolic bariatric surgery protocols aimed at identifying psychiatric contraindications and patients at risk of post-operative recurrent weight gain. While benefits are acknowledged, PPE lengthens waiting times for surgery and increases healthcare services costs.

Objective:
To assess the efficacy of PPE in a tertiary care setting, determining the necessity of psychiatric evaluations by a psychiatrist versus the potential sufficiency of surgeon-administered pre-operative psychiatric questionnaires.

Methods:
We retrospectively reviewed patient data from 2006 to 2020 at Walsall Manor Hospital, U.K., focusing on individuals who underwent metabolic bariatric surgeries. The analysis encompassed electronic and paper-based records to identify the methods of pre-operative psychiatric evaluation employed. All patients had their body mass index (BMI) measured at the time of surgery, followed by a reassessment for two years post-surgery. The chi-square test of independence was used to explore the association between the risk of recurrent weight gain by psychological assessments and actual recurrent weight gain.

Results:
Our cohort consisted of 481 patients, predominantly female (365 females vs. 116 males), with a mean age of 45.18 years (SD = 11.14 years) at the time of surgery. The procedures included sleeve gastrectomy (217 patients), gastric bypass (197 patients), and gastric band (67 patients). The procedures were predominantly performed laparoscopically (370 cases), with 111 cases performed openly. The analysis identified a marginal association between the risk of recurrent weight gain by psychological assessments and actual recurrent weight gain, with a p-value of 0.069.

Conclusions:
The findings highlight a marginal correlation between pre-operative psychiatric evaluations and recurrent weight gain post-surgery, questioning the absolute predictive value of these assessments. Given the effectiveness of metabolic bariatric surgeries in promoting significant weight loss, the essentiality of comprehensive psychiatric evaluations by psychiatrists warrants reevaluation. Considering the procedural costs and potential delays, further research is imperative to explore efficient, cost-effective psychiatric screening methods. This study suggests integrating surgeon-administered psychiatric questionnaires with targeted psychiatric evaluations for high-risk patients with obesity may offer a balanced approach to pre-operative psychiatric assessment in metabolic bariatric surgery protocols. It may reduce waiting time for surgery for patients and decrease the healthcare system's cost burden.

ePoster

15

AOM (Anti-Obesity Medication) weight loss: do we see the same nutritional issues as metabolic surgery?

Catherine Smith, Terri-Lynne South, Lynne Willis
WHY Clinic

Background:
Clinical practice with bariatric health has known management requirements to monitor and manage nutritional deficiencies and health impacts, post metabolic surgery. Historically, AOMs have not been able to achieve TBWL % matching that experienced by those who have undergone metabolic surgery, however with holistic bariatric health care and improved AOMs, this is changing. So, do we see the same nutritional deficiencies from such impressive TBWL %?

Methodology:
This clinical audit has been completed in a Bariatric Nurse Practitioner Clinic which provides telehealth and face to face management for more than 1500 clients across Australia. The nutritional blood test of 50 Clients who have achieved 15 to 50% TWBL were collected from the clinic electronic medical records (EMR). All clients were required to provide consent for inclusion in the clinic-based audits, as per confidentially requirements.

Results:
The participating clients were divided into two groups of 25 clients per group.

Group 1: included those who were post metabolic surgery and were attending the clinic for regain or maintenance management, Further inclusion criteria included: TBWL of 15+% 2+ yrs post metabolic surgery.

Group 2: included AOM clients who had achieved a TBWL of15+%.

The audit compared sex, gender, surgical procedure / AOM, time post weight loss, and nutritional blood test results. Iron levels, B vitamins and Vitamin D were the elements in consideration.

Conclusion:
This audits results build on the knowledge and clinical practice monitoring and needs for this new client group, the larger TBWL % AOM client.

ePoster

16

Assessing cardiometabolic risk in obese patients in Singapore: the role of neck circumference

Joanna Tan, Jessica Qun Hui Ong, Cherie Tong, Baldwin Yeung
Sengkang General Hospital

Background:
Obesity is on the rise in Singapore and is an important risk factor for cardiometabolic diseases. Neck circumference (NC) has been purported to be an alternative measure of obesity compared to body mass index (BMI) and waist circumference (WC). Some studies have suggested that neck fat may be similar to visceral fat, which has been demonstrated to be more strongly related with cardiometabolic risks (CMR) when compared with subcutaneous fat. In clinical practice, the relationship between NC and CMR, which includes total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglycerides (TG) and glycated haemoglobin (HBA1c) are rarely evaluated in population overweight/with obesity.

Objectives:
This study aims to evaluate the utility of NC as an alternative predictive measure for CMR in Patients with obesity in Singapore, compared against BMI and WC.

Methods:
A total of 153 pre-metabolic surgery patients (63% female, 53% Malay and 59% aged between 20-39 years) from Sengkang General Hospital's (SKH) weight management programme were analysed retrospectively from January 2022 to February 2023. Study variables were obtained at their initial physician visit. These include weight, height, NC, WC, BMI, serum total cholesterol, LDL, HDL, TG and HBA1c. Data were analysed with SPSS software. Pearson correlation was used to find out correlation between NC and indicated variables. Statistical significance was set at *P*-value of <0.01.

Results:
The mean of study variables was 3.8cm ± 5.0cm for NC, 123.0 ± 15.4cm for WC, 41.0 ± 6.3kg/m^2 for BMI, 3.2 ± 0.9mmol/L for LDL, 1.2 ± 0.2mmol/L for HDL, 1.6 ± 0.7 mmol/L for TG and 6.2 ± 1.3% for HBA1c. There were significant correlations between NC and BMI (*r*=0.347), WC (*r*=0.478), HDL (*r*=-0.298) but not observed with total cholesterol, LDL, TG and HBA1c.

Conclusion:
NC is positively correlated with BMI, WC and HDL but not significantly associated with CMR in our cohort of patients with obesity. Future studies should explore the utility of NC to monitor CMR in patients who have undergone metabolic surgery with significant weight loss.

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Attenuation of diet-induced obesity and related metabolic disorders by treatment with IL-2/anti-IL-2 complex and/or hyperbaric oxygen

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Obesity is a chronic low-grade inflammatory state featured with the increase of M1 macrophages and decrease of regulatory T cells (Tregs) in adipose tissues. Growing evidence supports anti-inflammatory treatment alleviates obesity and its related metabolic disorders.

In this study, we tested if IL-2/anti-IL-2 complex (IL-2C) and/or hyperbaric oxygen (HBO), known to expand Tregs in vivo and suppress inflammation, could alleviate diet-induced obesity and its related metabolic disorders. Male C57BL/6 mice fed with a high fat diet (HFD) were compared with those fed with a low-fat diet in the presence or absence of IL-2C administration and HBO treatment.

After 16 weeks, the body weight gain as well as impaired glucose metabolism, elevated levels of insulin and total cholesterol, induced by HFD, were improved by treatment with Il-2C and/or HBO.

Histological findings such as adipocyte hypertrophy and crown like-structures in the epididymal white adipose tissue as well as progression of non-alcoholic fatty liver disease were also significantly improved by IL-2C and/or HBO. As for the underlying mechanism, inflammation and HIF-1α expression in adipocytes and hepatocytes, induced by HFD, were also reduced by IL-2C and/or HBO.

In addition, IL-2C and/or HBO activated adipose tissue browning and increased the expression of UCP-1 in brown and inguinal adipose tissues. These results suggested that IL-2C and HBO might be a new promising immunotherapy for the treatment of obesity and related metabolic disorders by regulation of inflammation and activation of adipose tissue browning.

ePoster

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Banded Roux-en-Y gastric bypass with gastric pouch ring in patients with a BMI of >50kg/m2: is it effective enough?

Marijn Jense, Geert Verkoulen, Kick Bluijssen, Evelien de Witte, Pieter Broos, Bob Schaafsma, Jan-Willem Greve, Evert-Jan Boerma
Zuyderland Hospital

Background:
For the treatment of patients with obesity the Roux-en-Y gastric bypass (RYGB) is thought to be one of the most effective treatment options, with the banded RYGB resulting in even higher long term weight loss results. Although these results are promising, there is no agreement regarding the best procedure for the treatment of patients with a BMI > 50kg/m2. Therefore, this study aims to evaluate the effectiveness of the addition of a Gastric pouch ring to the RYGB in patients with a BMI >50kg/m2.

Methods:
This study is a retrospective cohort study performed in the Zuyderland Medical Center (ZMC) in Heerlen and the Nederlandse Obesitas Kliniek Zuid. All patients with a BMI >50 kg/m2 who underwent a banded Roux-en-Y Gastric Bypass using a Gastric pouch ring in the period July 2016 to December 2021 are included. Total Weight Loss, comorbidities and complication rates were analyzed over 2 years post-operative.

Results:
171 patients are included of whom 78.4% were female with a median BMI of 54.0 kg/m2 (51.4-57.7 IQR) and age of 42 (32-52 IQR) years at baseline. A mean % Total Weight Loss (%TWL) was seen of 15.6 at 3 months, 24.8 at 6 months, 32.1 at 1 year and 35.2 at 2 years post operatively. A mean BMI (kg/m2) was seen of 44.5 at 3 months, 39.7 at 6 months, 35.7 at 1 year and 34.1 at 2 years post-operatively. In this group, complications of Clavien Dindo 3b or higher < 30 days post-operative were seen in 8 patients (4.7%) of which 1 (0.6%) was ring-related, and >30 days in 16 patients (9.4%) of which 2 (1.2%) were ring-related and 7 (4.1%) were internal herniations.

Conclusion:
The banded RYGB with a Gastric pouch ring in this study population results in sufficient weight loss after 2 years. The ring related complications rates are low. Therefore, we conclude that a banded RYGB for patients with a BMI >50 kg/m2 is a safe and effective treatment option.

ePoster

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Banded sleeve stricture with intraoperative perforation converted to RYGB

Manish Khaitan, Riddhish Gadani

This is a video case report in which we demonstrate the management of complete sleeve stricture after banded sleeve gastrectomy. Intraoperative there was an inadvertant perforation in sleeve which was managed by using Jejunum as a "Thals Patch".

ePoster

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Banded vs. non-banded sleeve gastrectomy: 8 years prove the banded process wins the weight loss race

Mahak Bhandari, Susmit Kosta, Winni Mathur, Manoj Kumar Reddy, Mohit Bhandari
Mohak Bariatrics and Robotics

Background:
Sleeve gastrectomy (SG) is a widely adopted surgical procedure for the treatment of obesity and metabolic disorders. However, long-term weight loss outcomes with SG can be suboptimal due to gastric sleeve dilation. In response to this issue, the concept of banded-SG (B-SG), which involves the addition of a reinforcing ring around the gastric remnant, has emerged. Despite its potential benefits, comprehensive data comparing B-SG to traditional non-banded SG has been limited.

Aim:
To address this gap by conducting the most extensive and prolonged investigation of B-SG compared to non-branded SG.

Methods:
We conducted a comparative analysis of patient data from individuals who underwent both SG and B-SG procedures at our institution. Data were collected prospectively through in-person visits at 1, 2, 3, 4, 5-, 6-, 7-, and 8-years post-surgery.

Results:
The two groups exhibited excellent baseline similarity in terms of relevant characteristics. B-SG procedures had slightly longer operative times and increased blood loss, although these differences were not clinically significant. The perioperative complication rate was low, with one hemorrhage reported in each group. Weight loss outcomes were similar at 6 and 12 months, but B-SG yielded significantly superior weight loss at 2, 3, 4, 5-, 6-, 7-, and 8-years post-surgery, with the magnitude of difference increasing over time. At the 8-year mark, B-SG resulted in a 27.8% total weight loss (%TWL) decrease compared to 21.1% in SG (P=0.0001). Late complications were rare in both groups, and B-SG patients reported minimal food intolerances, infrequent postprandial vomiting, no heartburn, and 100% satisfaction with the loose-fitting B-SG version.

Conclusions:
Loose-fitting banded B-SG is a safe and highly effective procedure, consistently producing significantly greater weight loss outcomes compared to non-banded SG from 2 to 8 years post-surgery, with minimal associated side effects. These findings emphasize the potential benefits of B-SG as a long-term solution for patients with obesity and metabolic disorders.

ePoster

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Bariatric Surgery and Craving Eating Behaviours: A Retrospective Pilot Study

Chandra Massetti, Germana Ginevra Perrone, Alessandro Maria Paganini
La Sapienza University (Rome)

Background:
Although literature states that bariatric surgery represents the best treatment for severe obesity reducing binge eating behaviour, it's effectiveness in craving behaviours is still debated. Previous studies have suggested that "sweet eaters" patients struggle with more difficulties in losing weight and maintaining the clinical response after Sleeve Gastrectomy (SG) or Roux-en-Y Gastric Bypass (RYGB) procedures. Identifying the presence of these behaviours could be important to control recurrent weight gain after surgery, since this remains a risk.

Objectives:
Demonstrate that after Metabolic Bariatric Surgery patients develop dysfunctional eating behaviour such as " craving-type" behaviours.

Methods:
This retrospective pilot study retrospective study performed to investigate the presence of dysfunctional eating style in patients who underwent metabolic bariatric surgery procedures from 2017 to 2023. The investigation was conducted, after acceptance of informed consent, with a structured interview and the administration of psychometric questionnaires (SCL-90 and EBA-O) with online forms (Goole Form). Our pilot group counted 23 patients (14 females and 9 males), median age 40 to 60 years old. Of those 73.9% underwent SG, 17.4% underwent RYGB.

Results:
The results analysis pointed out that the eating style before metabolic bariatric surgery (BS) was characterized by binge eating behaviour (43,5%) and prandial hyperphagia (21,7%), while after the bariatric procedure, the eating style is characterized by grazing (66,7%) and emotional eating (14,3%). Data reported increased sweets consumption after surgery, for 8.7% before BS to 9.5% after BS.

Conclusions:
Our previous data confirm literature results, demonstrating that before metabolic bariatric surgery the most represented dysfunctional eating behaviour is Binge-eating, while after metabolic bariatric surgery we observe increased "craving-type" dysfunctional eating behaviours, such as sweet consumption, emotional eating and grazing. In our opinion a better comprehension of clinical and psychological aspects undergoing grazing behaviour associated to sweet eating and emotional eating can point out mechanisms and emotional triggers in order to prevent recurrent weight gain through psychological and clinical follow-up.

ePoster

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Bariatric surgery and it's association with inflammatory bowel disease

Courtney Holinger
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We report on the case of a 23-year-old male, who developed diffuse gastrointestinal Crohn’s disease 2months after gastric sleeve surgery. Prior to the surgery this patient had no previous symptoms of an inflammatory bowel disease (IBD). His only risk factor for IBD was a positive family history and he was otherwise well. As bariatric metabolic surgery becomes more widely practiced, there have been multiple sources indicating a possible causal link between bariatric surgery and new onset Crohn’s disease.

ePoster

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Bariatric surgery prior to renal transplantation: retrospective series from a single Australian centre

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Background:
Bariatric surgery is an established treatment option for obesity and has been shown to reduce weight, and improve obesity related complications which have the potential to limit life expectancy, including diabetes mellitus, myocardial infarct and stroke. Renal transplant recipients with obesity experience complications more frequently including infection, graft failure and mortality. Similar retrospective case series have reported bariatric surgery prior to renal transplant reduces weight at time of transplant and reduced prevalence of comorbidities. Bariatric surgery prior in renal transplant recipients has not been widely adopted, with concerns regarding absorption of immunosuppressive medications, infections, and graft outcomes. The objective of this study was to report on the outcomes of transplant recipients that underwent bariatric surgery prior to receiving a renal transplant within a single Australian tertiary centre.

Methods:
Patients were included if they had undergone a sleeve gastrectomy, roux-en-Y gastric bypass or adjustable gastric band prior to receiving a renal transplant. Patients were retrospectively identified from 2011-2020 from a single tertiary centre. Baseline characteristics, comorbidities, body mass index (BMI) and transplant outcomes were examined.

Results:
Five patients had undergone bariatric surgery prior to renal transplant. The most common type of bariatric surgery was laparoscopic sleeve gastrectomy (n = 4, 80%), with one patient undergoing a laparoscopic adjustable gastric band (n = 1, 20%). The mean time from bariatric surgery to transplant was 201 weeks (±194 weeks). The mean follow up period post-transplant was 7.9 years. There were no deaths and no graft failure. Four patients (80%) experienced delayed graft function and required a period of dialysis post-transplant. The mean pre-bariatric surgery BMI weas 43.2 kg/m^2, with a reduction in the mean BMI by 13 at the time of transplant, with a mean BMI of 30.3 kg/m^2.

Conclusion:
Bariatric surgery prior to renal transplant reduces BMI at time of transplant. Bariatric surgery should be considered in renal transplant candidates affected by severe obesity.

ePoster

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Bioinformatics analysis associates obesity-related gene CP with bariatric surgery, a potential biomarker for predicting TWL% outcome

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Background:
Laparoscopic sleeve gastrectomy (LSG) is regarded as an effective surgical procedure for patients with obesity. However, the relationship between genetic background and optimal clinical response [percentage of total weight loss (TWL%) >20% at one year] remains to be elucidated.

Objectives:
To identify potential obesity-related biomarkers in visceral adipose tissue (VAT) to assess optimal clinical response from an obesogenesis perspective using bioinformatics methods.

Methods:
GSE25402 was downloaded from the Gene Expression Omnibus (GEO) database. The analysis of RNA expression differences in visceral adipose tissue (VAT) between individuals with and without obesity was conducted in GSE25402 to identify differentially expressed genes (DEGs). Then, based on optimal clinical response (TWL% >20%), patients from Shjitan Hospital of Capital Medical University (SJT set) were divided into two groups: the optimal clinical response group and the suboptimal clinical response group. Moreover, difference analysis was also carried out to obtain DEGs between the two groups. A Venn diagram was used to screen overlapping genes between the DEGs in GSE25402 and the SJT set. Overlapping DEGs are filtered based on log fold change and p-value to identify hub genes. Finally, multiple methods were used to assess the predictive ability of the hub genes.

Results:
A total of 77 patients were included in our study. Of these, 30 were patients with obesity and 26 were patients without obesity in the GSE25402 dataset. Furthermore, 11 patients belonged to the optimal clinical response group, and 10 to the suboptimal clinical response group in the SJT set. Venn diagram showed that a total of 97 overlapping DEGs were detected. One hub gene, ceruloplasmin (CP), was detected. Differential expression analysis showed that CP was less expressed in the optimal clinical response group than in the suboptimal clinical response group. CP was negatively correlated with TWL% outcome at one year after LSG. The AUC value of CP for predicting optimal clinical response at one year after LSG was 0.818.

Conclusion:
Bioinformatics analysis associates obesity-related gene CP with bariatric surgery, a potential biomarker for predicting TWL% at one year after LSG.

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Blowout of remnant stomach after gastric bypass

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Background:
44 year old female, laparoscopic gastric bypass in 2019. Diabetes type 2.
She was admitted to the department of surgery after 1 day of intense abdominal pain. Tachycardic, pain is located in the middle of the abdomen.

Paramedics gave a total of 380micrograms of Fentanyl iv as pain treatment during transport to the hospital. Total time in transport to the hospital is 1hour and 34minutes.
Lab shows increased lactate levels of 5,7mmol/L, WBC 17,8 10^9/Litre and CRP 9. She also have a acute kidney failure.
CT scan shows large amount of free fluids intra-abdomially and a large defect of the remnant stomach.

Objectives:
Acute management of surgical emergency after gastric bypass.

Methods:
It was performed a diagnostic laparoscopy confirming a large defect in the remnant stomach and internal herniation of the biliopancreatic limb that caused a complete obstruction of the BP limb. Converted to laparotomy because we where unable to get overview of the pathology.

Results:
Open reduction of the hernia, closure of slits and partial gastrectomy of the remnant stomach was performed.
The abdomen was flushed with saline and 3 drains was placed in the abdomen.
The patients was treated at the ICU for 2 days before being admitted to the surgical ward.

Conclusion:
Essential to perform rapid surgical intervention. The patient had a rare complication after gastric bypass. Surgical intervention will be lifesaving for the patient.
The patient was discharged after 17 days in the hospital. No further complications 6 months after the surgery.

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Braun anastomosis: A Technique for bile reflux improvement after single anastomosis sleeve ileal (SASI) bypass

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Background:
Single anastomotic surgeries can increase the risk of reflux, marginal ulceration, and gastroint estinal complications. Braun anastomosis prevents bile reflux after gastric resection and gastrojejunal anastomosis surgeries.
The present pilot study evaluated Braun' efficacy in a single anastomosis sleeve ileal (SASI) bypass surgery.

Methods:
28 patients with a history of SASI bypass surgery from October 2017 to September 2021 were included in the study. Patients were divided into 2 groups based on having Braun anastomosis to this surgical procedure; group A: underwent SASI bypass without Braun anastomosis; group B: underwent SASI bypass with Braun anastomosis. The surgical complications in terms of bile reflux, marginal ulcer, reflux esophagitis, and gastritis were evaluated and compared between the groups.

Results:
Bile reflux and reflux esophagitis were seen more in group A than in group B (37.5% vs 8.3% and 18.8% vs 8.3%, respectively). In contrast, 2 patients (16.7%) in group B had marginal ulcers compared to 1 (6.3%) in group A. Also, gastritis was seen in 1 patient in each group (6.3% in group A vs 8.3% in group B). However, the differences were not statistically different.

Conclusions:
Braun anastomosis is probably an effective procedure to reduce bile reflux, a concern of sasi bypass

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BRYGB to SADI-S for recurrent weight gain

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Background:
Recurrent weight gain after Banded Roux en Y Gastric Bypass (BRYGB) is known and often best managed with revisional surgery to a Single Anastomosis Duodenal-Ileal bypass with Sleeve (SADI-S).

Objective:
To demonstrate surgical management of recurrent weight gain after BRYGB

Methods:
Case presentation and demonstration of surgical management of recurrent weight gain after BRYGB with conversion to SADI-S.

Results:

- 51 years old, Female
- Weight – 145 Kg, BMI – 60.35 Kg/m2 (at the time of primary surgery)
- Weight – 130 Kg, BMI – 54.28 Kg/m2 (at the time of revisional surgery)
- Her lowest weight was 105 Kg
- Comorbidities – Diabetes mellitus, Hypertension, Hypothyroidism, Hyperuricemia, GERD, Depression, Ca Breast
- Diabetes mellitus, Hyperuricemia, GERD resolved post BRYGB
- Post BRYGB – she presented with dumping syndrome post operatively and recurrent weight gain
- She started gaining weight 3 years post BRYGB and was planned for conversion to SADI-S

Conclusion:

- Recurrent weight gain post BRYGB can be effectively managed with revisional surgery
- Conversion to SADI-S is generally the best option for management of recurrent weight gain following a BRYGB

ePoster

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Case study: Patient with very severe obesity's nutritional and weight loss outcomes followed up to 1 year

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Mohak Bariatrics and Robotics Surgery Centre

Background:
Obesity is a global health challenge associated with multiple comorbidities, including type 2 diabetes mellitus (T2DM), obstructive sleep apnea (OSA), hypertension (HTN), and other metabolic diseases. Laparoscopic sleeve gastrectomy (LSG) is a standard bariatric surgery procedure, offering effective weight loss and management of related health issues.

Aim:
This study aims to analyse the outcomes of LSG surgery and post-operative dietary management in two diverse patient profiles, with a focus on achieving significant weight loss and managing related health conditions.

Methodology:
The methodology involved meticulous observation and documentation of two case studies. Data was collected encompassing pre-operative and post-operative phases, with a close monitoring of weight changes, dietary habits, exercise routines, and post-operative complications. Dietary preferences, including protein intake, calorie control, and fluid consumption, were carefully recorded. The data spanned over a three-month period post-surgery for both patients.

Results:
In the first case, a patient with a pre-surgery BMI of 98.9 kg/m² and weight of 266 kg underwent LSG surgery. Patient followed up to 1 year at different intervals. Weight loss at 3 months was 47kg, at 9 months 75kg and at 12 months 94kg. Patient experienced mild nausea and constipation occasionally. In the second case, a patient with a pre-surgery BMI of 57.3 kg/m² and weight of 207 kg. At 3 months, 9 months and 12 months patients weight loss was 40.2kg, 65kg and 87kg. Both patients exhibited significant improvements in sleep quality, physical capabilities, and a reduction in OSA symptoms. These positive results were attributed to strict adherence to a controlled diet, coupled with the absence of post-operative complications.

Conclusion:
The comprehensive analysis of both case studies underscores the positive outcomes of LSG surgery in addressing severe obesity and its associated health conditions. Post-operative dietary management, characterized by personalized dietary planning and controlled consumption of high-calorie and high-sugar foods, significantly contributed to weight loss and overall health improvement in both cases. The findings emphasize the significance of individualized patient care and continuous post-operative follow-up, which are vital for maintaining long-term optimal results in bariatric patients. These cases exemplify the multifaceted approach required to tackle severe obesity and its associated comorbidities.

ePoster

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Changes in glucose metabolism and quality of live in obese patients with type 2 diabetes mellitus undergoing laparoscopic sleeve gastrectomy.

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Background:
Short history of laparoscopic sleeve gastrectomy (LSG) as an independent bariatric procedure causes that we still lack studies providing analysis of glucose metabolism and Quality of Life (QoL) in patients with type 2 diabetes mellitus (DM2).

Objectives:
We aimed to assess the influence of LSG in patients with obesity with DM2 on glucose metabolism and QoL.

Methods:
Prospective, observational study included patients with BMI ≥ 35 kg/m2 and ≤ 50 kg/m2, DM2 < 10 years of duration, who were qualified for LSG. Perioperative 14-day continuous glucose monitoring (CGM) began after preoperative clinical assessment, then reassessment at 12 months after LSG. Bariatric Analysis and Reporting Outcome System (BAROS), that included MA-QoLQII score, and SF-36 questionnaire were used for repetitive assessment of QoL prior LSG and 12 months after surgery.

Results:
Thirty-three patients in mean age of 45 ± 10 years were included in study (23 females). EBMIL before LSG was 17 ± 11.7%, while after 12 months-66.1 ± 21.7%. Fifty-two percent of the patients had DM2 remission after 12 months. None required then insulin therapy. 16 on 33 patients initially on oral antidiabetics still required them after 12 months. Significant decrease in HbA1C as well as HOMA-IR was observed. Overtime perioperative average glucose concentration in CGM of 5.03 ± 1.09 mmol/L significantly differed after 12 months, 4.60 ± 0.53 (p = 0.042). Significantly higher percentage of glucose concentrations above targeted compartment (3.9-6.7 mmol/L) was observed in perioperative period (7% ± 4%), than in follow-up (4 ± 6% and 2 ± 1%). BAROS significantly increased before LSG, and 1 year after the surgery. MA-QoLQII score significantly rose with increase of EBMIL (p=0.002) and remission of DM2 (p=0.049), while inversely correlated with HOMA-IR (p=0.003).

Conclusion:
Significant improvement in glucose metabolism was observed 12 months after LSG. Higher QoL was observed in patients with DM2 1 year after LSG. Remission of DM2, higher EBMIL, lower HOMA-IR were factors that increased selected QoL scores.

ePoster

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Characterization of complications in patients undergoing sleeve gastrectomy in the last 17 years: a single surgeon experience.

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University of Concepción

Introduction:
Seventy-four percent of the Chilean population is overweight, with almost 35% being affected by obesity. Bariatric and metabolic surgery has been the most effective strategy for treating this disease so far. Sleeve gastrectomy currently represents the most frequent procedure accounting for 57.3% of procedures in the United States in 2022. Mortality rates range from 0% to 1.2%, and morbidity from 0% to 17.5%, with notable complications such as leaks (0.8%), bleeding (up to 15%), and portal vein thrombosis (0.42%).

Objectives:
To characterize a subgroup of patients undergoing sleeve gastrectomy within a patient series from Concepción, Chile, over the past 17 years, and to identify their demographic characteristics and associated morbidity. Materials: This is a descriptive observational study of a prospectively recorded data base between May 2006 and March 2024, involving 1343 patients. Descriptive statistics and chi-square frequency comparison were employed. Data tabulation and recording were done using Microsoft Excel, with statistical analysis conducted using SPSS version 25 statistical software. All surgeries were performed by the same surgeon.

Results:
A total of 1344 sleeve gastrectomies were performed, of which 1008 were women (75.1%) and 335 men (24.9%). The mean age was 34.6 years (SD 9.61). The mean body mass index was 37.06 kg/m2 (3.96). Twenty-three complications were reported (1.7%), of which 12 were observed in women (1.2%) and 11 in men (3.3%) p=0.011. 52.2% occurred in the first third of patients, 21.7% in the second, and 26.1% in the last third, p=0.154. 43.5% occurred in the first 200 patients, p=0.004. The first third accounted for 81.8% (9) of total leaks (11), the second for 18.2%, and the last for 0%. Morbidity in the last third (6) was 50% Clavien-Dindo grade 1, and 50% grade 2. 95.2% were single procedures, 2.6% were associated with cholecystectomy, 1.7% with hiatal hernia repair, and 0.5% with abdominal hernia repair, with no difference in complications, p=0.710.

Conclusions:
Morbidity was significantly higher in men. Most complications occurred in the first third of treated patients, especially in the first 200 cases. Morbidity decreased progressively, with the last series having Clavien-Dindo grade 1 or 2 morbidity and no reported leaks.

ePoster

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Characterization of factors for prolonged length of stay in 820 patients undergoing ambulatory bariatric/metabolic surgery.

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ACOCIB

Background:
Metabolic bariatric surgery (MBS) has emerged as a cornerstone in the management of obesity and related metabolic disorders. Despite its effectiveness, postoperative complications and prolonged hospital stays remain significant concerns, impacting both patient outcomes and healthcare resources. Understanding the factors contributing to prolonged length of stay (LOS) in patients undergoing metabolic bariatric surgery is crucial for optimizing the existent guidelines of perioperative care and enhancing surgical outcomes. Prolonged LOS not only increases healthcare costs but also exposes patients to the other risks such as hospital-acquired infections, thromboembolic events, and psychological distress.

Objectives:
This study aimed to describe the clinical characteristics of patients undergoing MBS who had a prolonged LOS in a high-volume center in Colombia over 2 years. Additionally, we sought to identify potential risk factors associated with extended hospitalization.

Methods:
We conducted a descriptive cross-sectional study where we collected a sample of 820 patients who underwent MBS over 2 years. We assessed demographic, clinical, anesthetic, and surgical characteristics, as well as the underlying causes associated with prolonged LOS. Prolonged LOS was defined as any hospitalization exceeding 24 hours following the intervention

Results:
The increase in LOS was documented in 11% of all patients, with an average duration of 2.9 days. Among these patients, 70% were women, with a weight and BMI average of 115 kg and 42.8 kg/m2;, respectively (Table 3). The primary cause of prolonged LOS was desaturation, accounting for 52% of cases, associated with deconditioning (73%), obstructive sleep apnea-hypopnea syndrome (OSAHS) (11%), and atelectasis (7%). This subgroup exhibited elevated rates of comorbidities, including OSAHS (23%), chronic obstructive pulmonary disease (COPD) (2.3%), and pulmonary hypertension (2.3%). Additionally, 64% of patients had a difficult airway, with a predominance of individuals classified as ASA III and Functional Class 2 and 3. Notably, longer hospitalization times were observed in patients undergoing revisional surgery and those requiring intensive care unit monitoring

Conclusion:
We propose that preoperative lung conditions, ASA III classification, difficult airway, and undergoing revisional surgery may represent risk factors contributing to prolonged length of stay.

ePoster

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Choice of surgical treatment for type 2 diabetes mellitus.

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Introduction:
The population of the Republic of Uzbekistan is more than 36 million people, of which about 24% suffer from obesity and 9.5% from type 2 diabetes. The need for bariatric surgeries is about 6.5 thousand operations per year.

Material and methods:
In our clinic, from 2015 to 2023, more than 3250 bariatric surgeries were performed, such as biliopancreatic bypass, RU-gastric bypass, sleeve gastrectomy, OAGB and sleeve gastrectomy with transit bipartation division (SGTB). From 2020 to 2023, the clinic performed 1,460 operations on OAGB. Of these, 625 patients suffered from type 2 diabetes mellitus with severe obesity and 240 patients with type 2 diabetes mellitus without obesity underwent SGTB. Our technique for performing OAGB was that the length of the gastric tube was 18 cm, the width was 3 cm. The diameter of the gastroenteroanastomosis was 3.0 cm. The gastroenteroanastomosis was applied along the posterior wall of the stomach. For SGTB, 250 cm was measured from the Baugen valve and a gastroenteroanastomosis was applied to the anterior wall of the antrum of the stomach and an entero-enteroanastomosis was applied at a distance of 50 cm from the gastroenteroanastomosis.

Results and discussions:
Efficiency of treatment of obesity in patients with OAGD\MGD assessed by percentage of excess BMI loss (%EBMIL). Analysis of clinical material showed that the average loss of excess BMI after 1 year was 85.8%. There was no significant weight loss in patients after SGTB. The effectiveness of OAGB in the correction of glycemia and remission of type 2 diabetes mellitus averaged 96.8%. In patients with a diabetes duration of 5 to 10 years, this figure was 100%, and in patients with a disease duration of more than 15 years - 92.3%. In patients with SGTB, complete remission of diabetes mellitus was observed in 98.2% of operated patients.

Conclusions:
1. Analysis of the results showed that the choice of surgical intervention in patients with type 2 diabetes mellitus should be individual, depending on BMI.
2. The use of OAGB in patients with severe obesity associated with type 2 diabetes mellitus contributed to the

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Closure of defects of Roux-en-Y bypass with cyanoacrylate de n-hexyle glue

Antoine Sina
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Roux-en-Y bypass is actually 30-35% of Bariatric surgery in France.

However internal hernia in some literature is up to 16%. More frequent after laparoscopy due to absence of adhesions.

Usually it occurs 12 to 24 months after surgery, 60% Peterson and 30% inter mesenteric.

Diagnosis clinically sometimes difficult until the CT scan which has to be thought rapidly.

No consensus in the literature on how to close it (suture, resorbable or non absorbable, glue ? ...).

We conducted an observation study mono-centric from January 2018 until January 2023.

A total of 357 Roux-en-Y bypass included (202 closure with re-resorbable suture and 155 with glue cyanoacrylate de n-hexyle).

Results:
None reoperation in the group glue.

3 internal hernia with V Lock.

Interesting constat from 37 patients reoperated in this series for other reason (22 cholecystectomy, 15 ventral hernia and 2 appendectomy): 4 patients had re-opened the intermesenteric defect and 2 the Peterson = 1,68%) all asymptomatic!

Conclusion:
Glue interesting, less time consuming and less complication, this is why we suggest it routinely, even if the real rate of re-opening the defects is under-estimated because mostly asymptomatic.

ePoster

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Collaboration between a bariatric surgery practice and a bariatric Nurse Practitioner (NP) Clinic

Catherine Smith
WHY Clinic

Background:
Follow up and ongoing, or lifelong care of post metabolic surgery clients can be challenge in the Australian health system. During Obesity Week 2018 the primary NP of a Bariatric NP Clinic attended sessions on how Bariatric NPs in the USA worked with Bariatric Surgery Clinics to continue lifelong follow up for their clients. More networking at ANZMOSS 2022 resulted in a trail of collaboration.

Objective:
To demonstrate the benefits for all parties when there is collaboration between a Bariatric Surgery Clinic and Bariatric NP Clinic. Then benefits include outcomes, relationships, and workload management.

Methodology:
A mixed method of data collection will be used. The numbers, patient groups, attrition rates and TBWL are sourced from the EMR reporting processes of the NP clinic. The qualitative data will be sourced from a feedback survey completed by all parties in the collaboration. All parties feedback will include information on the lived experience of the clients, the bariatric surgeon and the NPs. This data will be thematically analysed. Each participant in the survey will be required to consent to involvement in the survey.

Results:
From August 2022 to Jan 31st 2024, 31 clients were included in the collaboration. Their outcomes, including attrition rate (%), TBWL (%), transition to surgery, and stability of weight post weight loss goal achievements will be included. The data will be reported in total, and in the five groups which have been identified. These are:
1. Pre surgery
2. Non-surgical clients
3. Regain weight post metabolic surgery
a) 1 procedure
b) 2 procedures.
4. Complex post metabolic surgery clients more than 2 procedures and more than 2 chronic health conditions.
5. Post balloon procedure clients for maintenance of weight loss.
The times of the feedback surveys for all parties in the collaboration will be explored with the benefits and learning from the collaboration. These results will include quotes and statements about the experiences.

Conclusions:
The collaboration has produced benefits for all parties. Continuing to build these types of relationships and collaborations builds the quality of bariatric health care, the knowledge for all parties, and professional satisfaction.

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Comparative Analysis between Gastric Bypass and sleeve gastrectomy Surgeries in Women in Chile

Antonieta Latorre, Cristobal Davanzo, Alberto Sirabo, Trinidad Villalba, Judith Hernandez Madrid, Miguel Perez Lizama
Clinica Lo Curro

Background:
About 80% of metabolic bariatric surgeries (MBS) in Chile are performed on women, a procedure that has undergone significant changes since the introduction of a public healthcare benefit in 2022, which covers part of the cost for patients who meet certain criteria based on Body Mass Index (BMI) and comorbidities.

Objective:
Compare the prevalence of diseases in women undergoing gastric bypass surgery (GBP) and sleeve gastrectomy surgery (SG) during the year 2023 in Chile.

Method:
Data collection was carried out from clinical records of patients undergoing metabolic bariatric surgery during the period of 2023. The sample included 411 female patients. An analysis was carried out to determine the prevalence of comorbidities, and parametric statistics were used to compare between the two types of metabolic bariatric surgeries.

Results:
A total of 95.4% of the surgeries corresponded to gastric bypass , while 4.6% corresponded to sleeve gastrectomy. Women undergoing gastric bypass present an older age (GBP: 37.12± 10.57; SG: 31.89± 6.5), a higher weight, and a higher BMI compared with women undergoing sleeve gastrectomy. The BMI in both surgical techniques is higher than the national values, according to the National Health Survey 2016-2017 (NHS-17), for obesity categories ≥30 kg/m^2 (NHS-17: 33.7%, GBP: 41.98%, SG: 44.4%) and obesity ≥40 kg/m^2 (NHS-17: 4.7%, GBP: 58.05%, SG: 16.7%). The prevalence of the most frequent associated pathologies corresponds to insulin resistance, nonalcoholic fatty liver disease, and dyslipidemia. On the other hand, women undergoing sleeve gastrectomy show a higher prevalence of hypothyroidism and, a lower prevalence of hypertension, sleep apnoea, type 2 diabetes, and metabolic syndrome compared to women undergoing gastric bypass . Regarding the national reality, the studied population is below the prevalence for metabolic syndrome (NHS-17: 37.4; GBP: 24.7%, SG: 5.3%), while the National Health Survey refers to a suspicion of hypertension corresponding to 27.7%, surpassed the studied population undergoing gastric bypass with 28,6%.

Conclusion:
The results indicate that the main differences between gastric bypass and sleeve gastrectomy in women correspond to the weight prior surgery. Sleeve gastrectomy shows a lower prevalence of hypertension, sleep apnoea, type 2 diabetes and metabolic syndrome compared to women undergoing gastric bypass.

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Comparative Analysis of Micronutrient Levels Following Different Bariatric Procedures: A Prospective Study

Randeep Wadhawan, Naveen Verma, Deepa Kizhakke Veetil

Objective:
This study aimed to investigate and compare the levels of serum ferritin, vitamin B12, and vitamin D3 following laparoscopic sleeve gastrectomy (LSG), laparoscopic Roux-en-Y-gastric bypass (RYGB), and laparoscopic one anastomosis gastric bypass procedure (OAGB) in bariatric patients.

Material & Method:
A prospective analysis was conducted on 186 bariatric patients who underwent LSG, RYGB, or OAGB from October 2020 to December 2023 at Manipal Hospital, Dwarka, New Delhi. Patients were followed up at 3, 6, 12, 24, and 36 months postoperatively. The study groups were divided into LSG, RYGB, and OAGB cohorts.

Results:
Of the 186 patients, 174 were included in the study. Serum ferritin levels decreased most significantly in the OAGB group, followed by the RYGB group and least in the LSG group. Vitamin B12 levels showed the greatest reduction in the RYGB group compared to LSG and OAGB. There was no significant reduction in serum vitamin D3 levels in any of the groups.

Conclusions:
Micronutrient deficiencies were observed following LSG, OAGB, and RYGB in comparable frequencies in the short term. Long-term deficiencies varied, with vitamin B12 deficiency being more common after RYGB and serum ferritin levels after OAGB. Preoperative levels and patient factors influenced these deficiencies. Strengths of the study include its prospective design and high follow-up rate. Limitations include its single-centre nature and small cohort size, as well as the reliance on serum ferritin as an indicator for iron deficiency without comprehensive data on other iron parameters.

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Comparative analysis of prevalent pathologies between gastric bypass and sleeve gastrectomy surgeries in Chile

Antonieta Latorre, Cristobal Davanzo, Alberto Sirabo, Trinidad Villalba, Judith Hernandez Madrid, Miguel Perez Lizama
Clinica Lo Curro

Background:
Metabolic Bariatric surgery (MBS) in Chile has undergone significant changes since the introduction of a public healthcare benefit in 2022, which covers part of the cost for patients who meet certain criteria based on their body mass index (BMI) and comorbidities.

Objective:
To compare the associated pathologies presented by patients undergoing metabolic bariatric surgery (MBS) during the year 2023 in Chile.

Method:
Data collection was carried out from the clinical records of patients who underwent metabolic bariatric surgery (MBS) during the 2023 period. The sample included 501 patients from both public and private healthcare. An analysis was conducted to determine the prevalence of comorbidities, and parametric statistics were used to compare the two types of bariatric surgeries.

Results:
A total of 95.8% of the surgeries were gastric bypass (GBP), while 4.19% were sleeve gastrectomy (SG). Of all surgeries, 95.4% were from patients with public healthcare and 4.6% from private healthcare. The patients were 82% female and 18% male. Individuals undergoing gastric bypass surgery (GBP) had a higher age, weight, and body mass index compared to those undergoing sleeve gastrectomy surgery (SG). The six most frequent associated pathologies in all patients were insulin resistance (GBP: 65.2%; SG: 66.7%),nonalcoholic fatty liver disease (GBP: 55.4%; SG: 42.9%), dyslipidemia (GBP: 49.2% SG: 42.9%), GERD (GBP: 39.8%; SG: 19%), hypertension (GBP: 29.2%; SP: 14.3%), and metabolic syndrome (GBP: 29.3%; SG: 4.8%).

Conclusion:
The results reflect a high demand for metabolic bariatric surgery (MBS) through the public health system, with a predominance of female, and the most commonly used technique is gastric bypass (GBP). The main associated pathologies include insulin resistance, nonalcoholic fatty liver disease, and cardiovascular diseases. These findings underline the importance of metabolic bariatric surgery in the management of obesity and suggest the need for multidisciplinary approaches to improve the metabolic and cardiovascular health of patients.

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Comparative study Endoscopic Sleeve Gastroplasty (ESG) vs modified Primary Obesity Surgery Endoluminal (POSE-2)

Mohit Bhandari, Mahak Bhandari, Manoj Kumar Reddy, Manoel Galvao Neto, Winni Mathur

Background:
The rising prevalence of obesity has led to the development of less invasive weight loss procedures. Endoscopic Sleeve Gastroplasty (ESG) involves suturing the stomach to reduce its volume, while Primary Obesity Surgery Endoluminal (POSE-2) involves creating full-thickness gastric plications. Understanding their comparative effectiveness is crucial for guiding clinical decisions.

Aim:
The primary aim of this study is to compare the weight loss outcomes and safety profiles of ESG and POSE-2 procedures in patients with obesity. Additionally, we will assess changes in metabolic parameters, including insulin resistance, lipid profiles, and blood pressure.

Methodology:
This prospective comparative study includes data from 5 ESG and 5 POSE-2 patients who underwent these procedures. We collected baseline demographic data and monitored weight loss, excess weight loss, and metabolic parameters at 3-, 6-, and 12 months post-procedure. Safety profiles and complication rates were also analysed.

Results:
Preliminary results indicate that both ESG and POSE-2 were effective in reducing excess weight, with ESG showing a statistically significant percentage of weight loss (%TWL) advantage at 6 (9.2% vs 7.1%) and 12 (19.6% vs 15.2%) months. The safety profiles of both procedures were comparable, with minor complications reported in a small number of cases.

Conclusion:
This comparative study suggests that ESG and POSE-2 are viable options for patients with obesity seeking weight loss interventions. ESG may offer better short-term weight loss outcomes. Clinical decision-making should consider the specific goals and needs of the patient, as well as the long-term implications of the chosen procedure. Further research with a larger sample size and longer follow-up is needed to confirm and expand upon these findings.

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Comparing weight loss and complications in various anastomotic methods of Roux-en-Y gastric bypass

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Introduction:
Roux-en-Y gastric bypass (RYGB) is a common weight-loss procedure providing remarkable results with a mean percent total body weight loss of 31.2% one year after surgery1. RYGB is most commonly be performed laparoscopically or robotically. They may also be performed with different types of anastomotic methods such as fully stapled, partially stapled, or hand sewn approaches. Currently, there is little evidence directly comparing these anastomotic techniques. We performed an evaluation of weight loss and complications across various surgical methods.

Methods:
A single center retrospective cohort study was performed of patients undergoing MIS RYGB from September 2016 to October 2021 comparing fully linear stapled gastrojejunostomy versus other types of anastomoses. Patients who received RYGB with fully stapled anastomoses were matched to patients who received RYGB with other anastomotic methods. They were matched by age, gender, comorbidities, and preoperative BMI and weight loss. Primary outcomes were weight loss in pounds and rate of post-operative complications. The costs of robotic procedures and laparoscopic procedures were also compared.

Results:
Sixty-six patients (11 fully stapled, 55 other) were compared. There was no significant difference between weight loss at 3-months (p= 0.086), 6-months (p= 0.087), and 12 months (0.194) after surgery, when comparing patients who received a fully stapled RYGB and patients who received RYGB through either partially stapled (common channel creation with a stapler and suture closure) or hand sewn methods. There were also no significant differences in post-operative ER visits (p= 0.312), and morbidity occurrences/events between both groups (p= 0.611). Additionally, there was no significant difference in the cost of procedure when comparing robotic and laparoscopic RYGB (p= 0.345).

Conclusions:
Fully stapled RYGB patients result in similar outcomes compared to other anastomoses. Since both cause the same extent of weight loss and post-operative complications physicians can use either type of anastomoses to achieve similar results. Furthermore, since there was no difference in the cost of procedure between a robotic or laparoscopic approach, cost does not need to be a factor when determining the RYGB technique.

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Comparison between two staple line reinforcement techniques in laparoscopic sleeve gastrectomy for obesity: leak rate, bleeding and stenosis.

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Background:
Laparoscopic sleeve gastrectomy (LSG) is one of the most commonly performed bariatric procedures in the world for the treatment of obesity. This is a very effective technique with good results in long-term weight loss. Despite being a safe procedure, it is not free from complications, with gastric leak having the highest morbidity and mortality rates. This surgical complication can have its incidence minimized by reinforcing the staple line, which can be performed using an invaginating suture or transfixing suture. The present study aims to compare the two techniques with regard to reducing the incidence of gastric leak, bleeding and stenosis in the postoperative period.

Method:
This is a retrospective, descriptive and observational study, with 1155 patients candidate for laparoscopic sleeve gastrectomy in a single institution, performed by a single surgeon, between November 2008 and June 2021. The patients were divided into two groups being T1, with 122 patients undergoing LSG with continuous transfixing suture across the entire staple line, and T2, with 1033 patients, undergoing LSG with continuous invaginating suture.

Results:
Of the 1155 patients, 122 underwent T1, while 1033 underwent T2. Regarding the distribution of variables, there were 850 female patients and 305 male patients, BMI between 30.5 and 77.9 kg/m², age between 14 and 73. The complication rate of T1 and T2 was, respectively, 1.63% and 0% gastric leaks, 0% and 0.2% bleeding and 3.28% and 0.1% strictures.

Conclusion:
Suturing with invagination of the staple line fulfills the proposal of reducing the rate of complications in the postoperative period of LSG, mainly in reducing the appearance of gastric leaks, when compared to the transfixation technique. The stenosis rate was slightly higher in the transfixing suture, while the bleeding rate was slightly higher in the invaginating technique.

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Comparison of long-term outcomes between laparoscopic sleeve gastrectomy and laparoscopic adjustable gastric banding beyond 10 years

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Background:
Both laparoscopic sleeve gastrectomy (LSG) and laparoscopic adjustable gastric banding (LAGB) have been proven to be successful restrictive weight loss procedures for severe obesity. Despite being widely performed globally, limited data is available on their long-term results.

Objectives:
This study aims to investigate the long-term weight loss, co-morbidity outcomes and complication rates after LAGB and LSG in patients with a follow-up period of at least 10 years.

Methods:
All patients who underwent LAGB and LSG between 2006 to 2013 were reviewed from a prospectively collected database. Body weight, comorbidity status and long-term complications were evaluated.

Results:
During the period, 76 patients (60% female, mean age 38 years) and 130 (63% female, mean age 38 years) patients received LAGB and LSG, with a mean preoperative body mass index (BMI) of 37.9 ±4.9kg/m^2 and 41.5 ±6.1kg/m^2 respectively. Two patients with Prader-Willi syndrome were excluded. 61 (80%) LAGB patients and 95 (73%) LSG patients completed more than 10 years follow-up (mean 12 ±2years). LSG can achieve significantly better weight loss than LAGB at 1, 3 and 5 years, as well as in long-term beyond 10 years (%EBWL 58.1 ±33.3 vs 29.1 ±34.6, p <0.001). Higher remission rate of obstructive sleep apnea (80.6% vs 41.6%) and type 2 diabetes mellitus (39.5% vs 0%) are seen in LSG patients, whereas high non-response rate was observed in LAGB group (41%). Recurrent weight gain, defined as >30% weight gain from nadir, is common after both procedures (LAGB 49.2% & LSG 40.0%, p =0.26). 18% LAGB patients had band removed and remaining 25% patient had band completely deflated mostly due to intolerable obstructive symptoms. However, LSG is associated with high incidence of postoperative gastro-esophageal reflux disease (64%), of which 83% required regular use of PPI.

Conclusion:
LSG can achieve long-term weight loss and comorbidity improvement, even after ten years. It demonstrated long-term superiority over LAGB and ought to be regarded as the recommended procedure. Meanwhile, patients should be counselled of the risk of de novo GERD. High rate of recurrent weight gain in both procedures suggests that obesity is a chronic disease requiring continuous efforts to combat.

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Comparison of three different anastomoses of sleeve gastrectomy with transit bipartition (SG-TB) in patients with diabetes

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Background:
Sleeve gastrectomy with transit bipartition (SG-TB) was a novel bariatric and metabolic surgery that had received preliminary approval for its effectiveness and safety in reducing weight, improving diabetes, and other metabolic diseases. It showed promising prospects in clinical applications. There are currently three main types of SG-TB. These include Roux-en-Y transit bipartition (RYTB, single anastomosis sleeve ileal (SASI) and Braun anastomosis transit bipartition (B-TB).

Objectives:
To compare the effectiveness of three kinds of Roux-en-Y transit bipartition (RYTB, single anastomosis sleeve ileal (SASI) and Braun anastomosis transit bipartition(B-TB) as three weight-loss surgical differences in weight loss and glucose control in treating patients affected by obesity and diabetes.

Methods:
Patients' data from September 2019 to March 2023 that underwent SG-TB as primary surgery at our center were analyzed. Patients with T2DM were our main criteria. Patients with T2DM were our main criteria. Preoperative and postoperative parameters were as follows: BMI, fasting plasma glucose (FPG). Follow-up duration was at 1, 6, and 12 months.

Results:
90 patients (30 B-TB,30 SASI and 30 RYTB) were included in this study. The mean preoperative vs postoperative 12-month assessment was as follows:

(B-TB) BMI 37.6±5.5 vs 25.9±3.7 kg/m^2, FPG 8.8±1.9 vs 5.2±1.0mmol/L,

(RYTB) BMI 36.1±5.5 vs 25.4±3.7 kg/m^2, FPG 9.4±3.2 vs 4.9±0.7mmol/L,

(SASI) BMI 36.1±4.7 vs 24.0±3.1 kg/m^2, FPG 8.7±2.5 vs 5.2±0.9mmol/L ,all reached statistical significance (p value < 0.05). There were no statistical significances in the data between the three groups.

Conclusions:
From the short-term follow-up results, SASI, RYTB and BTB can effectively reduce weight and improve and alleviate T2DM in patients. Further research is needed to enhance the standardization of SG-TB procedures and provides reference for its wider implementation.

Table 1 Patients' postoperative assessment compared with baseline

	BMI (kg/m²)				FPG (mmol/L)			
	Baseline	1 month	6 month	12 month	Baseline	1 month	6 month	12 month
BTB	37.6±5.5	33.0±4.8*	27.4±4.2*	25.9±3.7*	8.9±1.9	6.1±1.2*	5.2±1.1*	5.3±1.1*
RYTB	36.1±5.5	31.3±4.8*	26.3±4.0*	25.4±3.7*	9.4±3.2	5.9±1.2*	5.4±0.7*	4.9±0.7*
SASI	36.1±4.7	31.4±3.8*	25.6±3.4*	24.0±3.1*	8.7±2.5	5.8±0.8*	5.1±0.7*	5.2±0.9*

*Significant difference between the particular value compared with the respective baseline value (p value < 0.05).

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Conversion from sleeve gastrectomy to roux-en-y gastric bypass with hiatal hernia repair

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Background:
Recurrent weight gain and gastroesophageal reflux (GER) following sleeve gastrectomy (SG) can present significant challenges in clinical management. Hiatal hernia repair and conversion from SG to laparoscopic Roux-en-Y gastric bypass (BPGYRL) have emerged as key interventions to address these complications and enhance long-term outcomes.

Objectives:
To describe the case of a 47-year-old female who underwent conversion from sleeve gastrectomy to laparoscopic Roux-en-Y gastric bypass with hiatal hernia repair due to recurrent weight gain and GER symptoms.

Methods:
The patient had a history of laparoscopic sleeve gastrectomy performed 10 years prior to consultation. Despite medical therapies and nutritional follow-up, she experienced recurrent weight gain and GER symptoms. A comprehensive evaluation by the multidisciplinary team, including imaging studies and esophagogastroduodenoscopy (EGD), was conducted. Hiatal hernia repair and conversion to BPGYRL were planned based on findings of hiatal hernia without signs of esophagitis on upper gastrointestinal series (UGI) and EGD.

Results:
During surgery, multiple adhesions at the level of the diaphragmatic hiatus were encountered, necessitating careful dissection for adequate repair. Hiatal hernia repair was performed by posterior closure of the crura with 2.0 suture, followed by laparoscopic Roux-en-Y gastric bypass according to standard technique. The procedure was completed successfully without complications in 180 minutes. At 5 months of follow-up, the patient reported resolution of GER symptoms and sustained weight loss, achieving a BMI of 30.

Conclusion:
This case highlights the effectiveness of hiatal hernia repair and conversion to laparoscopic Roux-en-Y gastric bypass in managing recurrent weight gain and GER symptoms following sleeve gastrectomy. It underscores the importance of an individualized and multidisciplinary approach to post-sleeve gastrectomy complications, ultimately improving patient outcomes and quality of life.

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Conversion of RYGB to LSG

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Background:
Conversion of a Laparoscopic Roux en Y gastric bypass (RYGB) to a Laparoscopic Sleeve Gastrectomy (LSG) is a technically challenging procedure and may be done as part of conversion of RYGB to a Single Anastomosis Duodenoileal Bypass with Sleeve Gastrectomy or Duodenal Switch, for suboptimal clinical response or recurrent weight regain or to LSG alone for excessive weight loss, dumping syndrome or hyperinsulinemic hypoglycemia. It may also be done for more uncommon reasons such as recurrent intussusception or refractory marginal ulceration.

Objective:
To demonstrate the laparoscopic conversion of RYGB to LSG.

Methods:
Case presentation and demonstration of laparoscopic conversion of RYGB to LSG.

Results:
48 years old, Female Underwent a Minilap RYGB (November 2021) Weight – 88 Kg, BMI – 33 Kg/m2 (Primary surgery) Weight – 58 Kg, BMI – 21.6 Kg/m2 (Revisional surgery) Lowest weight – 53 Kg Comorbidities – T2DM, Hypertension, Hypothyroidism, GERD, Hyperuricemia GERD, T2DM, Hyperuricemia and Hypertension resolved post RYGB 1.5 years post RYGB – she presented with excess weight loss, weakness, recurrent episodes of abdominal pain, and food aversion I/V/O recurrent episodes of abdominal pain – multiple abdomen and pelvis USGs and CT scans were done, in addition to Upper GI endoscopies which did not reveal any significant findings. Enteroscopy also did not reveal the cause of abdominal pain. She was treated for pancreatitis at another hospital and was given a celiac block for the unresolved pain. She was finally taken up for laparoscopic conversion of RYGB to LSG in view of the excessive weight loss and unexplained abdominal pain.

Conclusion:
Although conversion to LSG may be appropriate in carefully selected patients, other options may be considered for patients with severe chronic complications after RYGB In select cases, it may also be considered for more uncommon reasons Revision of RYGB to LSG is a feasible option, however, like any other revisional procedure it may be associated with a risk of complications Comprehensive assessment of the medical history, current health status, nutritional deficiencies.

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Core set of patient reported outcome measures for measuring quality of life in clinical obesity care: the S.Q.O.T. initiative

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Background:
The focus of measuring opitmal clinical response in obesity treatment is shifting from weight loss to health and quality of life (QoL). Routine assessment of QoL using patient reported outcome measures (PROMs) will ensure that the most important outcomes for patients will not go undetected. However, it is unknown which patient reported outcomes and PROMs should be used in clinical practice.

Objectives:
To select a standard set of individuals reported outcomes and PROMs for clinical obesity care.

Methods:
The Standardizing Quality of Life in Obesity Treatment (S.Q.O.T.) III face-to-face hybrid consensus meeting including people living with obesity was held in Amsterdam, the Netherlands, 2022. This consensus meeting was preceded by two prior multinational consensus meetings and a systematic review. The meeting was led by an independent moderator specialized in the development of patient reported outcomes and PROMs.

Results:
The S.Q.O.T. III consensus meeting was attended by 27 participants representing twelve countries across five continents. The participants included experts (surgeons, endocrinologists, dieticians, psychologists, researchers) and people living with obesity who were mostly involved in patient representative networks. The following PROMs were selected to measure eight previously selected patient reported outcomes: IWQOL-Lite (self-esteem), BODY-Q (physical function, physical symptoms, psychological function, social function, eating behavior and body image), QOLOS (excess skin) and no PROM (stigma). The people living with obesity were not concerned about the time it would cost to fill out these questionnaires routinely and found all patient reported outcomes important.

Conclusion:
A standard set of patients reported outcomes and PROMs to measure QoL in clinical obesity care for has been selected, incorporating patients' and experts' opinions. This standard set should be used as a minimum to measure QoL in routine clinical practice. It is essential that individual PROM scores are shared with people living with obesity to enhance patient engagement and shared decision-making.

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Crohns disease diagnosed post OAGB

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41 years old male patient operated 4-years ago sleeve gastrectomy with recurrence of weight gain converted by my colleague to omega loop gastric by pass (OGB), our patient still unsatisfied with sup optimal weight loss. He attended my Opd 6 months back with perianal discomfort and discharge. Clinical examination showed perinal fistulas MRI FISTUGRAM and ileo colonoscopy requested final diagnosed inflammatory bowel disease Crohn's disease, referred to gastroenterologist that started steroid and imurane. He scheduled for biological drugs next month. Our case to be discussed in multidisciplinary team.

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Depth of Neuromuscular Blockade (NMB) Affects Surgical Conditions in Obese Patients

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Background:
Robotically assisted surgeries have been shown to improve outcomes in patients affected by obesity. Pneumoperitoneum is of utmost importance to give surgeons an optimal view to manoeuvre the robotic instruments for the surgical procedure. Pneumoperitoneum is facilitated by neuromuscular blockade. There are two levels of neuromuscular blockade: deep and moderate neuromuscular block (NMB). There is evidence that a deep NMB may improve surgical conditions and may reduce sudden abdominal contractions during surgery. However, it remains unclear if the described advantages are comparable in patients with and without obesity.

Objectives:
We set out to determine whether deep neuromuscular blockade improves surgical conditions in patients with and without obesity compared to moderate NMB.

Methods:
After IRB approval, 100 patients were randomized to either deep neuromuscular blockade (dNMB) or moderate NMB (mNMB) as described below. The randomization was stratified based on the patient's BMI (< or > 30). After induction of anesthesia rocuronium was administered to keep NMB deep or moderate. Patients' paralytic levels were monitored with an acceleromyometer through the anesthesia period. "Train of four" (TOF) was maintained at 1-3 twitches in the mNMB group and at 0 twitches with at least one post-tetanic count (PTC) in the dNMB group. During abdominal CO_2 insufflation, the intra-abdominal pressure was kept at 15 mmHg. The 5-point Leiden surgical rating scale was used to assess surgical conditions every 15 minutes. Surgeon and surgical assistant were asked simultaneously.

Results:
Patients affected by obesity had significantly lower rating scores during the insufflation period compared to patients without obesity, 3.7 ± 0.7 versus 4.5 ± 0.5 ($p < 0.001$). Deep compared to moderate paralysis yielded better results in the obese group 4.0 ± 0.6 versus 3.4 ± 0.7 ($p = 0.02$), but not in the patient group with obesity (score of 4.5).

Conclusion:
While surgical conditions, as assessed by the Leiden surgical rating scale, during robotic abdominal surgery are significantly worse in patients affected by obesity compared to patients without obesity regardless of level of neuromuscular blockade, surgical conditions amongst patients with obesity are significantly improved when under deep paralysis.

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Developing phase 1 of the RESET programme: rebuilding energy and strength together after bariatric surgery

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Background:
A number of studies have investigated physical activity after bariatric surgery in an attempt to establish the optimum regime. Physical activity can provide a strategy for patients who experience suboptimal clinical response and recurrent weight gain. Resistance training programmes can preserve muscle mass and bone mineral density. Fat free mass is a key determinant of resting metabolic rate and is a powerful tool in weight maintenance. The RESET programme aims to deliver a resource for patients after bariatric surgery and here we present phase 1 of designing that intervention.

Objectives:
The intervention aims to educate, demonstrate and support patients by designing a bespoke physical activity intervention aimed at resetting physical activity and strength after bariatric surgery. Method The development of the RESET programme is being undertaken in phases based on already published intervention development framework. The phases include 1) evidence base and stakeholder consultation 2) co-production and 3) prototyping of the intervention. Phase 1 and 2 include an overview of reviews in this area, and semi-structured interviewing and focus groups to engage stakeholders with co-production.

Results:
The search criteria for the overview has revealed 20 eligible systematic reviews or meta-analyses for inclusion. These reviews include data from 83 primary studies. The studies include an intervention to measurably increase physical activity levels in the bariatric population. The topic guide for the interviews and focus group has been designed by the 'Patient and Public Involvement group' and includes a number of considerations. These are exploring 1) exercise advice received after bariatric surgery 2) knowledge of resistance based training in general 3) baseline awareness of home-based exercise and personal exercise monitoring 4) opinions of future exercise resource needs 5) the reality of exercise within the home set up and 6) vocabulary preferences in this context. The results of semi-structured interviews will be put forward to the prototyping stage of this intervention design.

Conclusion:
Developing a programme to help patients reset their physical activity after bariatric surgery is complex. It should be an iterative process undertaken in stages to ensure a fit-for purpose intervention applicable to a public – health care setting.

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Development of gastroesophageal reflux disease and Barrett's esophagus after sleeve gastrectomy - a Brazilian experience.

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Introduction:
Vertical gastrectomy or gastric sleeve (SG) has become the most performed bariatric surgery in the world due the excellent excess weight loss and to be technically simple. Recent studies have shown an increase in incidence of gastroesophageal reflux disease (GERD) and Barrett's esophagus (BE) in late postoperative period of these patients. The objective of this study is to investigate the incidence of GERD and EB in patients undergoing SG at the São José Do Avaí hospital, a Brazilian model of bariatric center.

Materials and Methods:
This is a retrospective study, where 1056 medical records of patients undergoing SG were analyzed, between 2008 to 2018, where 611 of which were selected patients who maintained regular follow-up. All selected patients did not have GERD, hiatal hernia or esophagitis preoperatively.

Results:
Of the 611 patients selected, 552 (90.34%) did not show any symptoms of GERD. Fifty nine patients (9.8%) developed signs and symptoms of GERD, and only one patient (0.16%) developed EB.

Conclusion:
In our sample, SG proved to be a safe and acceptable surgery in relation to the development of GERD and EB. We believe that these results are mainly due the well-established criteria regarding the indication of SG in our case series, which seems to reproduce the reality of most Brazilian services.

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Dietary changes after bariatric metabolic surgery: Effects on eating volume and nutrient quality an Asian single-center study

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Background:
It is important to identify eating habits associated with eating preferences and quality of life after metabolic bariatric surgery. This study evaluates the relationship between the amount of food consumed and the food quality in patients who underwent laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y gastric bypass (LRYGB).

Objectives:
To assess the food intake and diet quality of patients with metabolic bariatric surgery more than three months following the procedure.

Methods:
Participants were assessed post-operatively for 3 months and given a questionnaire evaluating food choice, quality of eating, tolerance of certain types of food, symptoms of discomfort after eating and preference. The correlation between food acceptance and preference among two groups with different surgeries was analysed using the chi-square test.

Results:
We enrolled 131 participants (mean age 40.65 years; BMI 31.27 kg/m^2; 50.4% women; follow-up time 42 months). The majority (67.18 %) underwent sleeve gastrectomy. Only 9.3% of the LRYGB group found it difficult to eat starchy foods such as rice, brown rice, and multigrain rice, compared to 26% in the SG group (p=0.039). In both groups, most patients complained of feeling bloated after consuming starchy foods such as rice, noodles, and bread. 53.9% of LSG patients and 59.4% of LRYGB patients reported that the gastric capacity was reduced by more than 1/2 one year after surgery compared to the initial volume.

Conclusion:
Following up on these patients' dietary status and preferences after surgery can help them understand their food intake choices. Both LSG and LRYGB surgeries reduce calorie intake by decreasing food volume and calorie density. Further investigation is needed to understand the mechanisms behind changes in the effect of dietary counselling on food consumption.

ePoster

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Differences in gut microbiota among metabolic syndrome patients with different renal functions before and after LSG.

Zeyang Wang, Liyong Zhu, Shaihong Zhu
Xiangya Third Hospital of Central South University

Background:
Based on the theoretical foundation of the gut-kidney axis, there are differences in gut microbiota among different renal functional states. LSG can improve the risk factors leading to renal function damage and improve the state of gut microbiota disorder.

Objectives:
(1) Study on the differences in gut microbiota between metabolic syndrome patients with renal ultrafiltration, CKD and patients with normal renal function.
(1) Study on the improvement effect of sleeve gastrectomy on renal hyperfiltration and differences in gut microbiota.

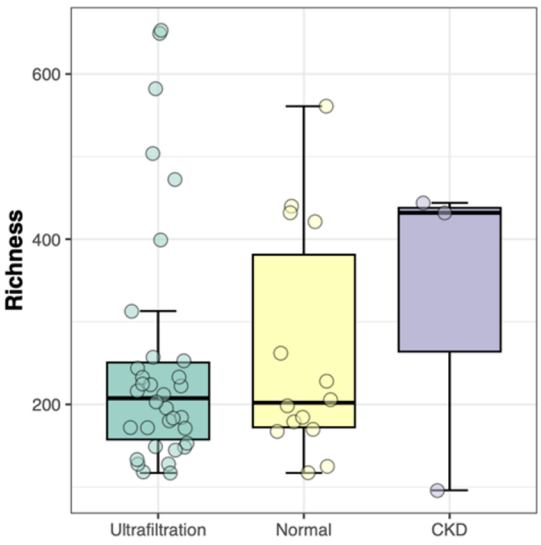
Methods:
The fecal specimens of 51 patients who underwent LSG were collected at preoperative and 3 months post. Patients were divided into normal group, ultrafiltration group, and CKD group based on eGFR before LSG and were divided into preoperative normal group, improvement group, and no improvement group based on whether eGFR became normal after LSG. This study used 16S rDNA amplicon sequencing technology, Qiime2, R, and SPSS software for microbial community and data analysis.

Results:
(1) There was no significant difference in the richness between the normal group, ultrafiltration group and normal group, but it was significantly correlated with BMI. The differences in OTU composition among different renal function groups was significant.

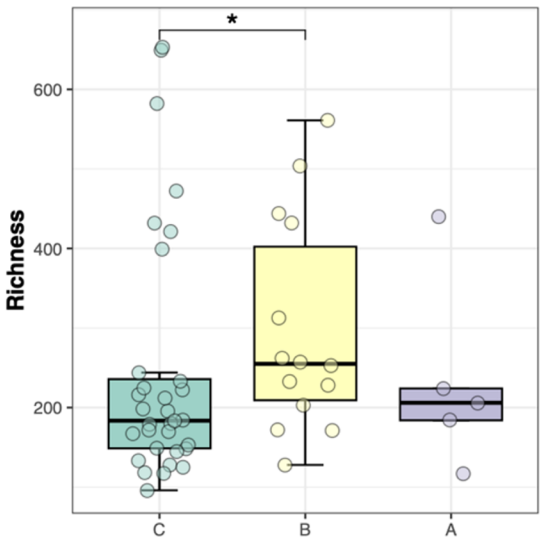
(2) Before LSG: The relative abundance of Bifidobacterium (Genus) in the ultrafiltration group was significantly higher than those in the normal group, while human_gut-metagenome (Species) in the normal group was significantly higher. In the CKD group, Escherichia Shigella (Genus) and Escherichia coli ATCC_25922 (Species) were significantly higher than those in the normal group.

(3) After LSG: The relative aboundance of Bacteroides (Genus) in the preoperative normal group was significantly higher than those in improvement group, while Blautia (Genus), Eubacterium_hallii_group (Genus) and Collinsella_aerofaciens_ATCC_25986 (Species) in improvement group were significantly higher than no improvement group. The intestinal flora with higher relative abundance in preoperative normal group compared to no improvement group include Eubacterium_hallii_group(Genus).

Conclusion:
(1) Compared with metabolic syndrome patients with normal renal function, patients with impaired renal function did not show significant differences in gut microbiota richness.
(2) There are differences in the composition of gut microbiota among metabolic syndrome patients with different levels of renal function improvement after LSG.


Richness
600
400
200
Ultrafiltration
Normal
CKD

eGFR


*
Richness
600
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C
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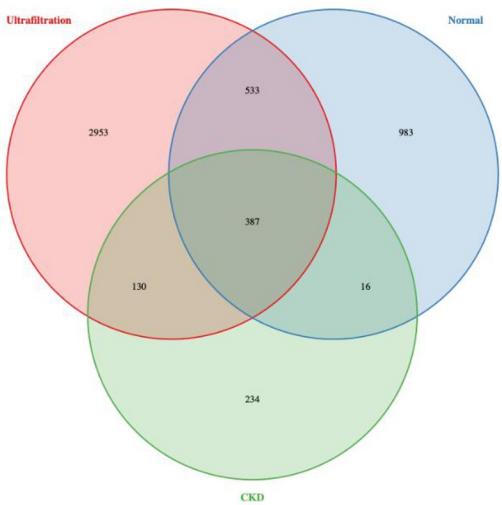
BMI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CKD
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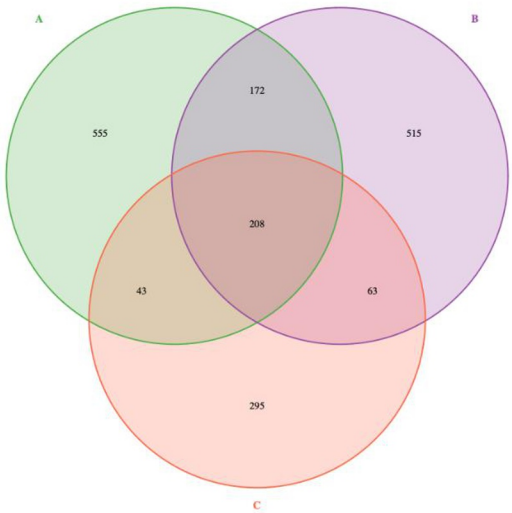
387
130
16
234


A
B
C
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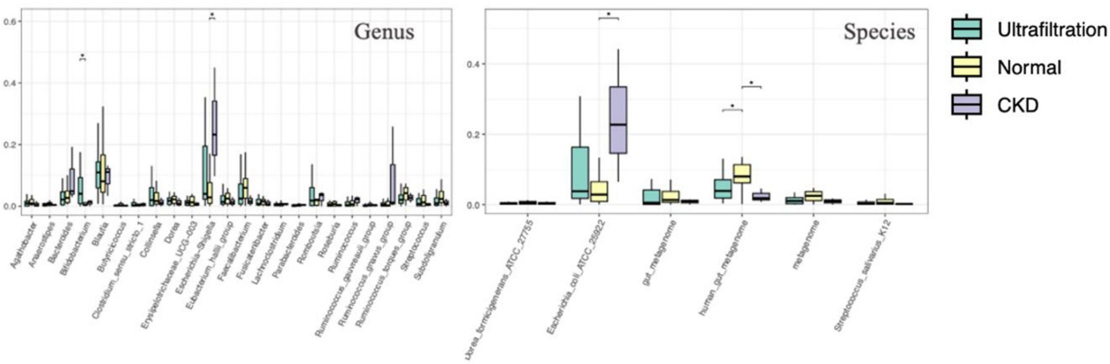
172
515
208
43
63
295


Genus
Species
Ultrafiltration
Normal
CKD
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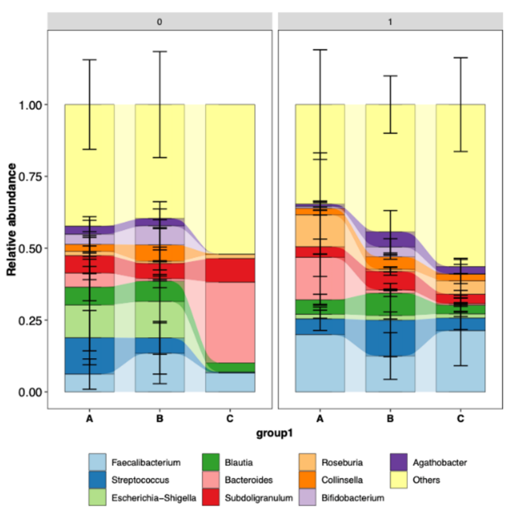
0.2
0.0


0
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Relative abundance
1.00
0.75
0.50
0.25
0.00
A
B
C
group1
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Streptococcus
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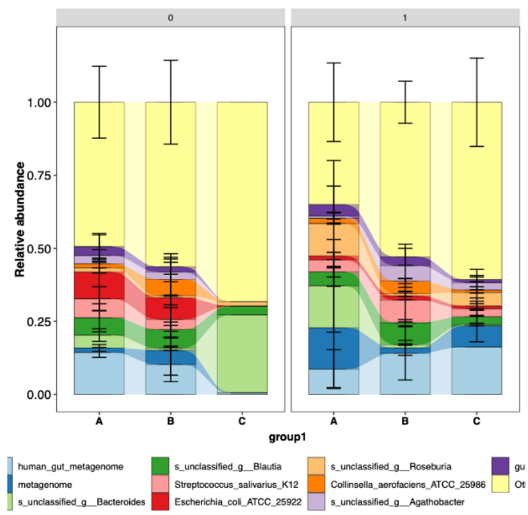
Bacteroides
Subdoligranulum
Roseburia
Collinsella
Bifidobacterium
Agathobacter
Others


0
1
Relative abundance
1.00
0.75
0.50
0.25
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A
B
C
group1
human_gut_metagenome
metagenome
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s_unclassified_g__Blautia
Streptococcus_salivarius_K12
Escherichia_coli_ATCC_25922
s_unclassified_g__Roseburia
Collinsella_aerofaciens_ATCC_25986
s_unclassified_g__Agathobacter

ePoster

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Does a Roux-en-Y gastric bypass help prevent short bowel syndrome: a case report

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Introduction:
Short bowel syndrome (SBS) is defined as a condition associated with less than 200cm of residual small bowel from the ligament of Treitz. In patients with bowel ischemia secondary to internal hernias after Roux-en-Y gastric bypass (RYGB), significant bowel resection may be required and has the potential to cause SBS, which is associated hypoabsorption, malnutrition, and weight loss.

Case Presentation:
A 67-year-old man with a history of colon cancer with a right hemicolectomy with ileocolic anastomosis, RYGB, combined heart-kidney transplant presented with one day of severe abdominal pain and nausea. He was afebrile and hemodynamically stable but moderately distended and diffusely tender with leukocytosis to 13000 and lactate of 4.1. CT demonstrated distended jejunal loops with bowel swirling concerning for an internal hernia. He was emergently brought to the operating room, where he was found to have an internal hernia at his jejunojejunostomy and extensive necrotic bowel, which was resected. He underwent perioperative cardiac arrest requiring compressions and was on multiple pressors throughout the procedure. He was left in discontinuity with a temporary abdominal closure device. He returned to the operating room two more times over the course of the next three days undergoing further bowel resection for ischemic bowel and was ultimately left with 159cm of viable small bowel. However, the patient progressed well postoperatively, was weaned off parenteral nutrition, and was discharged on hospital day 22 with normal range nutritional markers. At his post operative visit, the patient reported good diet tolerance and normal bowel movements.

Discussion:
Despite this patient's tenuous course, 159cm of remaining small bowel, lack of ascending colon and ileocecal valve, the patient is presently without signs or symptoms of SBS. This could possibly be attributed to long-term microscopic adaptations of his gastrointestinal tract that have taken place following his RYGB which in turn may have improved lipid, carbohydrate, and protein absorption. However, close short and long-term follow up is imperative.

ePoster

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Early bariatric surgery clients hiding in primary care

Catherine Smith, Caetlin Jopson
WHY Clinic

Background:
Metabolic surgery is now recognised as a safe effective treatment for obesity, however we all know the path to quality surgery was not always smooth, with less encouraging health impacts on the original surgical participants. Early surgical techniques and obesity treatments did not procedure the health outcomes we see now. Some of these early clients still live with long term health impacts. Many have given up seeking assistance from bariatric surgical teams and live with moderate primary care support.

Methodology:
Case study design. Presentation health, the collaboration, the treatments and the outcomes achieved for a very complex early bariatric surgical client. All information has been collected via the collaboration between the integrated practitioners treating her and from a short client interview on her lived experience.

Results:
Presentation in June 2023 to Bariatric Nurse Practitioner (NP) clinic post a verbal referral from a NP colleague treating her elderly mother. Primary surgery LSG 1996 which flowed vomiting daily & multiple dilations. TBWL 61% weight loss over 2 years. Revisional RYBG in 1998 followed by a pregnancy within 12 months of surgery. Post pregnancy her weight increased and her health deteriorated.
Presenting for assistance 25 yrs post revision surgery with no bariatric surgical follow up for 20 yrs post moving and her past experiences.
The experience Integrated General Practitioner, a Nurse Practitioner student/ Dietitian and the primary Bariatric NP the clients dumping syndrome and health is now improving markedly. This poster will list the investigations chosen, the results, the integrated medication treatments and the work on her internalised weight bias.

Outcomes:
The health improvements and quality of life changes are very significant for the client, however this is not the only positive result of this case. It has lead to improved collaboration between her treating team and steps to further improve this collaboration. Our integrated team is seeing an increasing number of these complex clients, whom a benefiting from our teams learnings from this clients journey.

ePoster

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Early postoperative complications after bariatric surgery in Misurata, Libya: a single center analysis 2018-2023

Fathi Elzowawi
Libyan Society of Bariatric & Metabolic Surgery

Introduction:
Bariatric surgery is the most effective treatment for severe obesity and associated medical co-morbidities. Bariatric procedures are generally safe and effective, but can be associated with complications. Early complications may include bleeding, leakage, venous thromboembolic events (VTE), wound infection, abdominal wall hematoma, and dehydration required admission.

Aim of study :
The aim of this study is to assess the incidence, clinical presentation, risk factors, and management of early postoperative complication within 30 days.

Materials and methods:
This single center retrospective cohort study of collected data for all patients whom underwent one of Bariatric Surgical operations: Sleeve gastrectomy, One anastomosis gastric bypass, Roux-en-Y gastric bypass (RNYGB), Single anastomosis sleeve ileal (SASI) in the period between January 2018 September 2023.

Results:
The total number of patients whom underwent bariatric surgeries were 861, of them 562 (65.3%) were females 299 (34.7%) were males. Body mass index (BMI) for the patients ranged from 35 to 65 kg/m2 with mean 46.2 kg/m2. The most common procedures done was sleeve gastrectomy 554 (64.3%), followed by bypass surgery 292 (33.9%), and 15 (1.8%) were revisional procedures.The most common early complications was abdominal wall hematoma which occurred in 27 (3.1%) patients, followed by dehydration in 21 (2.4%), post operative bleeding (POB) which occurred in 16 (1.9 %) patients of them 12 (1.4%) patients extra-luminal bleeding (ELB) and 4 (0.5%) patients Intraluminal bleeding (ILB), followed by wound infection in 11 (1.3%) patients, VTE as well as leakage occurred in 5 (0.6%) patients, and prolonged ileus in 2 (0.25%) patients. Noticeably, the leakage was strongly related to higher BMI ($P<0.01$), while bleeding was strongly associated with hypertensive patients ($P<0.05$).

Conclusion:
The incidence of early complications after bariatric surgery remains within the acceptable range in comparison with the other published studies. Most of the early complication could be managed conservatively while surgical treatment might be required for some patients especially with hemodynamic instability.

Keywords: Early postoperative complications; bariatric surgery; Obesity, Misurata, Libya.

ePoster

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Effect of Adding Gastropexy and Omentopexy to Laparoscopic Sleeve gastrectomy on Medium Term GERD Outcome

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King Abdullah Medical City

Background:
Metabolic bariatric surgery (MBS) has become preferred method for severe obesity, Despite the advantages, postoperative complications pose's significant challenges. Our study examines the effectiveness of Omentopexy/Gastropexy (OP/GP) during LSG on minimizing these complications

Methods:
This study is a descriptive retrospective analysis comparing standard Laparoscopic Sleeve Gastrectomy (LSG) against LSG with Omentopexy/Gastropexy (OP/GP), focusing on postoperative complications. It examines patient records for socio-demographic details, medical history, post-surgery outcomes, and EGD results, utilizing IBM SPSS version 22 for data analysis.

Results:
The study included 407 individuals with obesity (mean age 38.8 years) showing optimal clinical response >20% (TWL) post-surgery. Complications occurred in 1.9% (8 cases), with 37.1% (151 cases) experiencing GERD postoperatively.
Endoscopic findings showed lower complication rate for the OP/GP group (86 findings) versus the standard LSG group (98 findings). The OP/GP group had fewer cases of esophagitis (Grade A: 9 or 11.69%, Grade B: 2 or 2.60%) compared to the standard group (Grade A: 14 or 14.58%, Grade B: 8 or 8.33%). The OP/GP group experienced more mechanical issues like twisting (9 cases), while the standard group had a higher incidence of hiatal hernias (8 cases) and exclusively bile reflux (5 cases). Gastritis rates were higher in the standard group (37 cases or 38.54%) than in the OP/GP group (34 cases or 44.16%).

Conclusion:
Integrating OP/GP with LSG decreases postoperative complications like GERD, per EGD data and surveys. Preliminary findings urge more research on OP/GP's in improving LSG results, highlighting the importance of refining surgical methods with fewer complications.

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Effect of strengthening exercises in body image satisfaction after bariatric surgeries

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Mohak Bariatrics and Robotics Surgery Centre

Background:
Obesity is a significant public health concern, and bariatric surgeries have become a common approach to address it. While these surgeries result in substantial weight loss, they can also lead to body image dissatisfaction, which may impact patients' psychological well-being. Strengthening exercises have been suggested as a potential intervention to enhance body image satisfaction post-bariatric surgery, but their effectiveness remains underexplored.

Aim:
This retrospective study aimed to investigate the effect of strengthening exercises on body image satisfaction in 148 patients who had undergone bariatric surgeries at our high-volume centre.

Methodology:
The study involved 148 patients who had previously undergone various bariatric surgical procedures. Data was collected through medical records, patient self-reports, and follow-up questionnaires. The patients were categorized into two groups: a strengthening exercise group (n=76) and a control group (n=72). The strengthening exercise group participated in a supervised exercise program, which included resistance training and aerobic exercises, for a period of six months. The control group received standard post-bariatric surgery care without any exercise intervention. Body image satisfaction was assessed using validated questionnaires at the baseline and after six months.

Results:
The results of the study showed that patients in the strengthening exercise group exhibited a significant improvement in body image satisfaction compared to the control group. After six months of exercise intervention, the exercise group reported higher self-esteem, increased body confidence, and reduced body dissatisfaction. These changes were statistically significant ($p<0.05$) when compared to the control group.

Conclusion:
This retrospective study provides evidence that strengthening exercises can have a positive impact on body image satisfaction in patients after bariatric surgeries. Incorporating a structured exercise program into the post-surgery care plan may contribute to improved psychological well-being and overall satisfaction among bariatric surgery patients. These findings suggest that healthcare providers should consider integrating exercise interventions as part of the comprehensive care package for individuals undergoing bariatric surgeries. However, further prospective studies with larger sample sizes and longer follow-up periods are needed to confirm these results and to explore the long-term benefits of strengthening exercises on body image satisfaction in this population.

ePoster

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Effectiveness of metabolic bariatric surgery in menopause and perimenopause – experience from a bariatric center in Greece.

Athanasios Pantelis, Dimitris Lapatsanis
Athens Medical Group, Psychiko Clinic

Background:
Menopause is a period of intense hormonal changes, alterations in body composition, and perceived weight gain. However, evidence of the effect of menopause on bariatric outcomes following metabolic bariatric surgery (MBS) remains elusive.

Methods:
We analyzed data of all female patients who underwent MBS in our service over 5 years and had a documented follow-up (FU) of at least 1 year. The patients were classified into three groups: reproductive age (18-44 years, G1), perimenopausal (45-55 years, G2), and postmenopausal (>55 years, G3). The groups were compared regarding age, type of surgery, weight, BMI, % total weight loss (TWL), and % excess BMI loss (EBMIL) at 1 year postoperatively (continuous data: means ±SD; categorical: frequencies).

Results:
Over the study period, 647 women underwent MBS [G1: 445 (68.8%) patients, mean age 32.8 years, median age 33 years; G2: 158 (24.4%), mean age 49.2y, median age 49y; G3: 44 (6.8%), mean age 59.7y, median age 59y]. The distribution of operations was as follows – G1: 425 (95.5%) index, [269 (63.3%) laparoscopic sleeve gastrectomy (LSG), 155 (36.5%) one-anastomosis gastric bypass (OAGB), 1 other], 20 (4.5%) RBS; G2 – 152 (96.2%) index, [96 (63.2%) LSG, 56 (36.8%) OAGB], 6 (3.8%) RBS; G3 – 42 (95.5%) index, [30 (71.4%) LSG, 56 (28.6%) OAGB], 2 (4.5%) RBS. At 1 year, mean weight and BMI were 76.9 ±14.8Kg and 27.95 ±5.33Kg/m^2 (G1), 79.4 ±13.1Kg and 29.0 ±4.5Kg/m^2 (G2), and 83.3 ±17.7Kg and 30.4 ±5.3Kg/m^2 (G3). The respective values for %TWL and %EBMIL were 36.8 ±8.5% and 90.4 ±23.2% (G1), 36.2 ±8.2 and 84.9 ±17.1% (G2), and 31.7 ±10.5% and 75.6 ±27.2% (G3). Weight and BMI differed significantly between G1 and G3 (p 0.0077 and 0.0038, respectively), whereas only BMI differed between G1 and G2 (p 0.0286). G3 differed significantly from G1 and G2 regarding both %TWL and %EBMIL (p 0.0001–0.006), whereas only %EBMIL differed between G1 and G2 (p 0.0066).

Conclusions:
Postmenopausal women who underwent MBS had consistently higher weight and BMI, as well as lower %TWL and %EBMIL compared to their premenopausal and perimenopausal peers. Larger-scale multicentric studies are needed to validate our results.

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Effects of 16-week combined supervised exercise program after bariatric surgery on the prevention of sarcopenia – The EXPOBAR randomized trial

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ULSAC

Background:
Metabolic Bariatric Surgery (MBS) stands as a recognized treatment option for severe obesity, demonstrating its effectiveness in weight reduction and addressing obesity-related diseases. However, the weight loss achieved through MBS often correlates with a notable decrease in skeletal muscle and bone mineral mass. This correlation suggests an elevated risk of sarcopenia among patients' post-surgery.

Objectives:
This randomized clinical trial aims to study the effects of a 16-week supervised combined exercise program on the prevention of sarcopenia in patients undergoing MBS. As a secondary purpose, we also intended to evaluate the effects on the body composition in the first two years after MBS.

Method:
A total of 37 patients who had subsequently performed MBS were included in the EXPOBAR (EXercise POst BARiatric) program and randomized into experimental and control groups. The intervention lasts for a total of 16 weeks and starts one month after surgery. Parameters of body composition and physical fitness were determined. For each participant, outcomes are measured at five different time points: before the surgery, before the exercise program, after the exercise program, and six and twelve months after the exercise program.

Results:
This study examines the effects of physical exercise on sarcopenia in patients after MBS. Considering the reasons and facts for the diagnosis of sarcopenia, a decrease in muscle strength and quality was observed, with a less marked reduction in skeletal muscle mass and muscle quality index in the group that exercised.

Conclusion:
Combined exercise programs reduce the risk of sarcopenia after MBS. The implementation of prophylactic programs aimed at preventing sarcopenia in MBS patients emerges as a pivotal factor for ensuring the long-term optimal response of MBS.

Trial registration: The trial was registered at Clinicaltrials.gov NCT03497546

Keywords: exercise, bariatric surgery, fat-free mass, sarcopenia, metabolic risk factors, quality of life

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Endoscopic revision of Roux-en-Y gastric bypass for recurrent weight gain

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Mohak Bariatrics and Robotics

Background:
Roux-en-Y Gastric Bypass (RYGB) is a widely recognized and established surgical procedure for weight loss and management of obesity. However, in some cases, patients may experience complications or suboptimal weight loss after RYGB surgery. In such cases, endoscopic revision may be considered as a less invasive alternative to a repeat surgical procedure. As it associated with less complication. Endoscopic suturing: In this procedure, sutures are placed in the stomach pouch to reduce its size and restrict food intake.

Objective:
In this video we demonstrate how to revised to RYGB to Endoscopically.

Method:
43-year, female underwent RYGB, Initial weight was 111kg, nadir weight was 69 kg and recurrent weight gain then weight regain of 11kgs (80 kg) at 48 months after the initial procedure.

Revision surgery to ESG was done and at two months follow up patient had lost 11kgs

Conclusion:
Endoscopic sleeve gastroplasty is good option after Roux-en-Y Gastric Bypass for management of complications. Endoscopic revision of RYGB is generally considered to be safe and effective.

ePoster

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Endoscopic sleeve gastroplasty in Japanese patients with obesity: a multidisciplinary introduction

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The Jikei University School of Medicine

Background:
Endoscopic sleeve gastroplasty (ESG) is globally recognized as a viable endoscopic bariatric treatment. However, the suturing device for ESG has not been approved in Japan so far. We performed the first clinical case by importing the device with our medical license in 2020.

Objectives:
This study aims to evaluate the metabolic therapeutic effects of ESG in Japanese population in which obesity and metabolic conditions are considered less problematic.

Methods:
Eligibility criteria include a body mass index (BMI) over 27 kg/m^2, age between 20 and 65, and the presence of one or more comorbidities of dyslipidemia, diabetes mellitus, hypertension, obstructive sleep apnea, or liver abnormalities. Patients with past medical history of *Helicobacter pylori* infection or endoscopically confirmed atrophic gastritis were excluded. A multidisciplinary team comprising surgeons, endoscopists, endocrinologists, anesthesiologists, and dietitians provided preoperative medical treatments; medications, dialogue instructions, etc. and monitored systemic conditions of patients. In the first three cases, ESD was conducted under laparoscopic observation to ensure safety. Patients were followed up monthly and received dietary counselling for six months. The primary outcome was 6-month percentage of total body weight loss (%TBWL), and secondary outcomes included 6-month percentage of excess weight loss (%EWL), change in metabolic conditions, adverse events, laparoscopic findings, and follow-up endoscopic findings.

Results:
Between November 2020 and September 2023, ESG was performed on five patients. The primary endpoint of mean %TBWL was 14.1% (SD 7.4). Mean %EWL was 33.3% (SD 22.5). Four patients had an improvement of at least one or more comorbidities. No severe adverse events were reported. Laparoscopic observation identified one instance of abdominal wall suturing. Initial follow-up endoscopy revealed early suture dehiscence in the first patient, whom the %TBWL was only 5%; subsequent adjustments in suturing technique, including increasing the number of sutures and implementing box-shaped suturing, prevented similar outcomes in the other four cases. None developed post-procedure gastroesophageal reflux disease.

Conclusion:
The study confirms the safe adoption of ESG in a Japanese clinical setting along with favourable metabolic therapeutic outcomes, facilitated by a multidisciplinary team.

ePoster

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Establishing a service for pregnant woman post metabolic bariatric surgery

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Background:
Pregnancy after bariatric-metabolic surgery presents a magnified risk of nutrition deficiency. This is often compounded by hyperemesis, gestational diabetes, and/or becoming pregnant early after bariatric surgery. Often at the time of conception women are no longer receiving care from their bariatric team. There is low confidence among midwives on optimal nutrition management in this patient group. Establishing a dedicated pregnancy nutrition service for women with prior bariatric-metabolic surgery is therefore essential for optimal care for both the mother and the developing foetus.

Objectives:
To describe the steps involved in establishing a bariatric pregnancy service within the public system at Auckland City Hospital.

Methods:
We undertook literature and service reviews to investigate the optimal model of care. A prioritisation tool was developed to establish service eligibility. Locally-focussed standards of care to guide practice were developed. The service was audited after 6 months.

Results:
A Dietitian Service was established as part of the Womens' Health Team, resourced at four hours per fortnight. All women within two years of bariatric surgery, or with comorbidities including gestational diabetes (GDM), hyperemesis gravidarum, and foetuses that were small or large for gestation age were prioritised. Individuals with gastric bypasses were prioritised over sleeve gastrectomy. The program aimed for dietitian appointments once a trimester, with one post-partum follow-up. The service has been running for six months. Fourteen women have been seen. Nine women had a previous gastric sleeve, and five a gastric bypass. The mean time of bariatric-metabolic surgery to pregnancy was two years, seven months. The average gestation at the first scheduled appointment was 22 weeks. The average BMI at conception was 31.3. Four women developed GDM and one woman had existing diabetes. Seven women received the recommended blood biochemistry screening prior to the first appointment.

Conclusion:
A dedicated pregnancy service for women with prior bariatric-metabolic surgery helps to ensure optimal nutritional care for both the mother and the developing foetus. Areas of focus for service improvement include advocating for early referral to the service and ensuring recommended blood biochemistry screening is completed for all patients prior to the initial appointment.

ePoster

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Evaluation of pregnancy safety in patients with obesity who underwent metabolic and bariatric surgery

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Golestan University of Medical Sciences

Background:
Obesity is associated with many complications. Metabolic and bariatric surgery improves obesity-related complications. Pregnancy complications are higher in patients with obesity than patients without obesity.

Objectives:
Metabolic and bariatric surgery improves the safety of pregnancy. patients with obesity who get pregnant following metabolic and bariatric surgery will have a safer pregnancy period than patients with obesity.

Methods:
Patients were divided into 3 groups. Group I includes fifty pregnant women with a BMI greater than 40. Group II consists of thirty pregnant women with a BMI under 30 who previously underwent metabolic and bariatric surgery, and group III includes fifty pregnant women with a BMI under 30 who did not have a history of metabolic and bariatric surgery. Patients were followed up during pregnancy period and one week after delivery. Patients of 3 groups were compared in terms of pregnancy risks and complications, including gestational diabetes, gestational hypertension, preterm labor, macrosomia and miscarriage. Also, patients were evaluated in terms of birth complications such as the need for cesarean section and surgical site infection.

Results:
The incidence of gestational diabetes was 32% in the first group, 13.3% in the second group and 8% in the third group. The prevalence of gestational hypertension in 3 groups was 16%, 6.6% and 6% respectively. The prevalence of miscarriage in 3 groups was 20% in group I, 13.3% in group II, and 10% in group III. The prevalence of preterm labor was 20%, 13.3% and 10% in groups I to III. The prevalence of macrosomia in 3 groups was 20%, 11.5% and 8.9% respectively. The prevalence of cesarean delivery was 52.5%, 42.3% and 44.4% in groups I to III. The prevalence of surgical site infection was 9.5% in the first group and zero in the other groups.

Conclusion:
Patients with obesity are at higher risk for pregnancy complications. metabolic and bariatric surgery in patients with obesity improves pregnancy safety and reduces pregnancy complications, including gestational diabetes, gestational hypertension, miscarriage, preterm labor and macrosomia. Also, complications during childbirth, such as the need for a cesarean section and surgical site infection at the cesarean section, are reduced.

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Exact limb length for OAGB as a revision

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King Saud Medical City- Riyadh

At conclusions of this case report and study review:

OAGB shorter hospital stay,operative time, better revision option than Roux-en-Y and less complication than any revision procedure.

BPL in OAGB is 250-350 cm.

Dilated gastric pouch criteria

Longer BPL, means more nutritional loss

OAGB more TWL than roux en y bypass

Literature reviews we included in our presentation include: eg OAGB after sleeve effectiveness.

Reseizing pouch from a radiological point.

Dilated pouch reseizing for weight loss failure.

Long vs short BPL length in roux en y comparison.

Common length channel. and more

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Examining identical twins undergoing bariatric surgery: The single anastomosis duodeno–ileal bypass with sleeve gastrectomy (SADI-S) approach

Rahul Menon, Phil Lockie
QLD Health

Introduction:
Studies in monozygotic (MZ) twins may help researchers elucidate the complex relationships between genetic and environmental factors on weight loss. We present a world first of MZ twins who have undergone the SADI-S procedure who have identical weights 3 years post-operatively.

Case Report:
Two MZ twin 49-year-old females were assessed preoperatively and was indicated for the SADI-S procedure. They underwent surgery in 2020 by the same surgical team. Three years later post-operatively they had identical weights of 62 kg (and a BMI of 23) and %EWL of 126% and 124% respectively.

Discussion:
SADI-S is a novel bariatric procedure for severe obesity. Studies have found concordant epigenetic patterns in patients who have undergone bariatric surgery as well as MZ twins who have hypocaloric diets.

Conclusion:
Genetics exert a strong influence in weight management. Surgical management as well as a collaborative multidisciplinary approach is beneficial in supporting long lasting weight loss in bariatric surgery.

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Experience and comparison using barbed suture in gastrointestinal anastomosis when performing a roux-en-y gastric bypass

Katrina Lolas Tornquist, Agustin Guerra Catalano, Gabriela Smith Pedemonte, Gustavo Czwiklitzer Sumar, Percy Brante Baez, José María Cortés Arteaga, Felipe Sepúlveda Jaqui, Natalia Valderrama Fuentes
Chilean Society of Bariatric and Metabolic Surgery

Background:
Bariatric surgery has shown exponential growth in Chile, with a total of 16765 procedures per year. The roux-en-y gastric bypass (RYGB) is performed at 40.88 % according to the last registry reported in 2022. There are different techniques reported for gastrointestinal anastomosis closure in bariatric surgery with the use of mechanical and manual suture techniques.

Objectives:
The primary study's purpose is analyze the safety of barbed suture when it's performed for gastrointestinal anastomosis closure in RYGB, and secondly compare it with the rates published in the current literature of bleeding 0.04%, leakage 1.38% and stenosis 0.15%.

Methods:
A descriptive observational study with a retrospective cohort was carried out, using the RYGB database of a single center performed between January 2022 & December 2023. Barbed suture was used for closure, gastrojejunal and jejunojejunal anastomosis in the RYGB. The incidence of bleeding, leakage and stenosis was subsequently analyzed. Finally, a non-parametric test (Fisher's exact test) was used to compare the percentage of complications in relation to conventional suturing with, Absorbable Sutures using data extracted from the literature.

Results:
A total of 571 RYGB were performed, The 85.11% were women with a mean age of 40.51 ± 9.15, and a mean BMI of 39.17 ± 4.79.

There were 2 reported cases of bleeding, with an incidence of 0.35%. The etiology of the bleeding was a mesenteric tear and bleeding from the staple line of the gastric remnant. A case of leakage and stenosis in the jejunojejunal anastomosis was reported, with an incidence of 0.17 respectively. The recorded mortality was 0.17% corresponding to a single case secondary to massive pulmonary thromboembolism.

Risk comparison revealed no significant differences in bleeding or stenosis ($p = 0.214$; $p = 0.580$), but a significant reduction in leakage risk was observed with Babred Sutures ($p < 0.01$).

Conclusion:
The use of barbed suture to perform gastrointestinal anastomosis in the RYGB is safe, without showing higher rates of bleeding and stenosis, even showing a reduction in leakage risk when compared with current literature.

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Exploring ISTDP therapy for severe obesity: clinical benefits

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Taban Clinic

Objective:
This case series aimed to assess the potential clinical benefits of Intensive Short-Term Dynamic Psychotherapy (ISTDP) for individuals with severe obesity, given the limited effectiveness of current Eating Disorder (ED) treatments.

Methods:
We examined pre- and post-treatment mental health outcomes in a group of 23 patients diagnosed with severe obesity (BMI > 40) who received ISTDP therapy.

Results:
Analysis of these cases demonstrated significant reductions in psychological distress, as indicated by improvements on the Brief Symptom Inventory and Inventory of Interpersonal Problems, with notable effect sizes.

Conclusions:
These initial results suggest that ISTDP intervention holds promise for alleviating psychological distress in individuals with severe obesity and may ultimately lead to reduced healthcare costs associated with both severe obesity and eating disorder treatment.

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Exploring long-term outcomes of bariatric-metabolic surgery: A comprehensive analysis of weight loss, health, and patient behaviours at 10 years.

George Hopkins, Christine Skinner, Lucimay Davey
Obesity Surgery Brisbane

Background:
While short-term outcomes after primary bariatric-metabolic surgery (BMS) are well-documented in the literature, long-term studies are scarce.

Objectives:
This study examines the long-term outcomes of patients 10 years after undergoing primary BMS at a single centre.

Methods:
All patients who underwent a primary Laparoscopic Sleeve Gastrectomy (LSG) or Gastric Bypass (GB) surgery prior to December 2013 were contacted to be involved. Patients completed a survey which included questions about their current health status; psychological, dietary and exercise behaviours; and experience after surgery. Weight loss outcomes at various time periods were reported based on surgery type.

Results:
Fifty patients (LSG n=31; GB n=19) have participated in the project. 24% underwent a revisional bariatric procedure within the timeframe. LSG resulted in a percent total weight loss of 29% at 1 year, 31% at 2 years, 30% at 5 years, and 24% at 10 years, with a reported nadir total weight loss of 37% at an average of 22.5 months post-op. On the other hand, GB showed a percent total weight loss of 30% at 1 year, 40% at 2 years, 33% at 5 years, and 33% at 10 years, with a nadir weight loss of 42% at 35 months. Among the patients included, the majority (74%) reported improved health compared to pre-surgery. At the 10-year mark, a notable portion of patients faced challenges, with 47% suffering from reflux, 56% experiencing bowel issues, and 24% reporting abdominal pain.

Dietary habits varied, with 27% not eating regularly; 8% reporting they are always hungry, 65% being hungry occasionally, and 27% rarely hungry. Most patients (86%) acknowledged taking vitamin/mineral supplements, and 68% underwent regular nutritional screening. 67% expressed concerns regarding body image. Interestingly, 68% of the cohort showed interest in anti-obesity medication, indicating a willingness to explore further weight loss treatment options.

Conclusion:
This comprehensive data provides insights into the long-term effects and patient experiences associated with BMS. Analysis of the data reveals significant and sustained weight loss in this patient cohort. These findings underscore the long-term effectiveness of primary BMS in improving patient outcomes but also highlights the importance of long-term follow-up.

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Exploring the efficacy of anti-obesity medication in post-bariatric surgery patients: a preliminary analysis of a single centre's early experience.

George Hopkins, Christine Skinner, Terri-Lynne South

Background:
The use of anti-obesity medications is becoming common practice as an adjunct therapy to bariatric-metabolic surgery, particularly in patients who experience recurrent weight gain in the medium-term post-op.

Objectives:
This study aims to evaluate the early experiences with anti-obesity medication in post-bariatric surgery patients.

Methods:
Data was retrospectively collected on patients who were seen by the clinic's bariatric GP in the last six months for further weight management. A medical review and education regarding the various medication options was performed by the bariatric GP. The anti-obesity medications utilised were Semaglutide, Liraglutide, Tirzepatide, and Bupropion/Naltrexone. Where required, patients interchanged between medications when availability limited access.

Results:
A total of 30 patients with a mean age of 47 years, predominantly female (83%), are included to date. The average time to anti-obesity medication use post-surgery was 4.1 years, with an average weight gain of 12.5kg from nadir post-operation. The mean BMI at the start of anti-obesity medication therapy was 34.2kg/m2. Surgery types included Primary Laparoscopic Sleeve Gastrectomy (50%), Primary Gastric Bypass (30%), and Revisional Gastric Bypass (20%). The overall weight loss observed at 1-2 months was 2%, increasing to 5% at 3-4 months and 7% at 6 months. Our observation was that post-bariatric surgery patients required lower dosages of the anti-obesity medication.

Conclusion:
Early experiences with anti-obesity medications in post-bariatric surgery patients show promising initial weight loss results. Additional data will be provided to further enrich and improve this analysis. Long-term studies are also warranted to assess the sustainability and efficacy of anti-obesity medication therapy in this patient population.

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Factors associated with rising costs in gastric bypass robotic procedures

Marianne Huynh, I-Wen Pan, Paul Hansmeyer
Medtronic

Background:
Robotic systems are widely applied to bariatric surgical procedures, though robotic procedures have high costs. This study aimed to understand factors associated with inpatient costs of gastric bypass robotic procedures.

Objectives:
This study identified the cost drivers of gastric bypass robotic procedures.

Methods:
Patients who underwent robotic gastric bypass elective procedures between 1/1/2021 and 12/31/2022 were extracted from PINC AI™ Healthcare Data. Inclusion criteria were patients who used single-type staplers, had all the key variables, and had non-zero costs. Total inpatient cost, variable, and fixed costs were converted to 2022 USD using the consumer price index of hospital services. Factors including patients and provider characteristics, types of staplers used (laparoscopic (Ethicon and Medtronic) bedside staplers (LBS), other unspecified bedside staplers (OBS), and robotic staplers [RS]) were evaluated. Univariate and bivariate analyses were used to examine baseline balance among groups. A multivariable general linear model with gamma distribution and log-link function was used to identify cost drivers. Sensitivity analysis was done by the bootstrapping method.

Results:
Total of 7,606 discharges were eligible for and included 1,436 (18.9%) LBS, 659(8.7%) OBS, and 5,511(72.4%) RS cases. Cost drivers included type of staplers, patients aged >=55, male, with non-White race, diagnosed with obesity, higher comorbidity, and disease severity, and providers in North region, rural, 500+ beds, with lower surgeon's volume, and procedures done in 2022. After adjusting other cost drivers, the LBS significantly reduced total inpatient cost by $2,220±$432 (Mean difference ± Standard error) and $2,119±$181 compared to OBS and RS, respectively. Also, the procedures done by LBS significantly reduced OR time by 43.3±3.9 and 41.4±2.1 minutes compared to OBS and RS. Meanwhile, LBS has equivalent outcome performance including blood transfusion, bleeding, anastomotic leak, and ICU visits, compared to OBS and RS. Sensitivity analysis showed similar results.

Conclusion:
Robotic staplers and other unspecified bedside staplers were critical cost drivers in patients treated with gastric bypass robotic procedures compared to major brand LBS.

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Feasibility of online cognitive-behavioral group therapy following bariatric-metabolic surgery: a randomized pilot study

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Background:
Cognitive-behavioral group therapy (CBGT) is an effective treatment for various mental disorders. Online psychotherapeutic interventions are becoming increasingly popular. Bariatric surgery is a well-established treatment for severe obesity and is effective in controlling weight and comorbidities. However, the literature suggested that recurrent weight gain and mental health problems, such as increased alcohol consumption, symptoms of depression and anxiety, and changes in eating behavior, may occur after surgery.

Objectives:
To examine the applicability of CBGT delivered through an online intervention on symptoms of depression, anxiety, binge eating, and weight change in individuals who experienced recurrent weight gain four years after undergoing bariatric surgery.

Methods:
The study included patients with a history of severe obesity who had undergone bariatric surgery more than four years ago. Participants were recruited from a university bariatric center through medical records identification. Of the 142 eligible patients, 33 had regained 15% of their lowest post-surgical weight. After excluding 13 participants who declined to participate, 20 individuals were randomly assigned to two groups: the target intervention group, which received eight sessions of online CBGT, and the control group, which viewed three online lectures. The CBGT sessions consisted of psychoeducational lectures on eating habits, anxiety, and sleep hygiene, with further guidance provided by nutrition and physical education professionals. At the end of each session, participants were given homework to reinforce cognitive and behavioral lifestyle changes. Outcomes of both groups were assessed using the Beck Depression Inventory-II, the General Anxiety Disorder-7, the Binge Eating Scale, and the body mass index before (T_0) and after the intervention (T_1).

Results:
Both groups showed a marginal reduction in symptoms of depression (p=0.055). Additionally, a shift in binge eating behaviors (p=0.004) was found. However, no variation in body mass or symptoms of anxiety was observed. The CBGT group attended an average of 6.6 sessions, while the control group attended 2.4 lectures.

Conclusions:
The results of this pilot study indicate that an eight-session CBGT delivered through an online intervention was feasible and beneficial for patients who regained weight after bariatric surgery.

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Females are at higher risk for skeletal muscle loss after sleeve gastrectomy

Yudai Hojo, Yasunori Kurahashi, Akinori Kanzaki, Tatsuro Nakamura, Eiichiro Nakao, Shugo Kohno, Motoki Murakami, Yoshika Orino, Shota Imamura, Chiho Yoshimura, Manabu Kadoya, Yoshinori Ishida, Hidenori Koyama, Hisashi Shinohara
Hyogo Medical University

Background:
Metabolic bariatric surgery (MBS) induces significant muscle mass decrease through dramatic weight loss after surgery. Although changes in body composition after MBS can differ between males and females, studies investigating sex differences in skeletal muscle loss attributed to MBS are scarce.

Objectives:
To determine sex differences in skeletal muscle loss after MBS.

Methods:
Data from patients with severe obesity, who underwent sleeve gastrectomy (SG) at Hyogo Medical University Hospital (Nishinomiya, Japan) between January 2018 and January 2023, were included. Skeletal muscle area (SMA [cm^2]) was measured using computed tomography images at the level of the third lumber vertebra using the Synapse Vincent image analysis system (FUJIFILM Medical Co., Ltd., Tokyo, Japan) before and 1 year after the operation. SMA reduction rates per decrement in body mass index (BMI [kg/m^2]), calculated as, (preoperative SMA – 1-year postoperative SMA) / preoperative SMA) × 100 / (preoperative BMI – 1-year postoperative BMI), were compared between male and female patients.

Results:
Of the 25 patients who underwent SG during the study period, 5 were excluded (missing postoperative clinical data [n = 3]; age > 65 years [n = 1]; and non-Asian [n = 1]); as such, data from 20 patients (11 male, 9 female) were analyzed. There were no significant differences in patient characteristics and clinical responses between the 2 respective (i.e., male versus [vs.] female) groups: mean (± SD) age, 48.9 ± 7.7 vs. 49.4 ± 7.8 years (p = 0.88); preoperative BMI, 35.9 ± 3.5 vs. 37.8 ± 6.7 kg/m^2 (p = 0.411); preoperative prevalence of type 2 diabetes, 4/11 (36.4%) vs. 6/9 (66.7%) (p = 0.37); BMI decrement, 7.2 ± 2.2 vs. 7.5 ± 3.4 kg/m^2 (p = 0.813); and percent excess weight loss (72.1 ± 31.9% vs. 68.1 ± 45.9% (p = 0.819). SMA reduction rates per decrement in BMI were significantly higher in female patients (1.3 ± 0.4% vs. 2.5 ± 0.4%; p = 0.036).

Conclusion:
Female patients exhibited a higher risk for skeletal muscle loss after SG. Enhanced perioperative physical and nutritional therapy may be needed to prevent skeletal muscle loss after MBS in female patients.

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Fertility restoration after bariatric surgery, a case series conducted on post bariatric surgery patient operated in Khyber Teaching Hospital Peshawar

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Khyber Teaching Hospital

Background/intro:
Obesity has become epidemic around the globe and has nearly tripled since 1975. According to WHO Fact sheet, more than 1.9 billion people of age group 18 years and older, were overweight. Among these over 650 million had obesity. Obesity is a risk factor for many health issues, including type 2 diabetes, cardiovascular diseases and several types of neoplasia. Obesity is also known risk factor for infertility in both genders, and it has been proven to increase the risk of pregnancy related complications and decrease chance of conception.

Objectives:
To describe the clinical characteristics of women who undergo bariatric surgery for obesity and To Assess the impact of bariatric surgery on fertility outcomes in women.

Materials and Method:
This was a case series, conducted on post bariatric surgery patients whom underwent bariatric surgery for reason of primary infertility. The medical records of 23 eligible participants were reviewed to collect the data. A structured questionnaire was used to collect information on post-surgery fertility and reproductive health outcomes. Data was analyzed on SPSS version 25.

Results:
The participants' ages ranged from 25 to 38 years, with a mean of 29.70 years (SD = 3.522). The preoperative BMI (Body Mass Index) ranged from 35.29 to 73.60 kg/m², with a mean of 50.3448 kg/m² (SD = 9.10591). Normal pregnancy was reported by 12 participants (52.1%), while 4 participants (17.3%) experienced miscarriages. 6 participants (26.6%) reported infertility, and one participant (4.3%) had an ectopic pregnancy.

Conclusion:
This case series provides compelling evidence of the positive impact of bariatric surgery on fertility restoration. This series includes 23 patients who underwent bariatric surgery for primary infertility.

The significant increase in conception rates observed in this study highlight the potential benefits of weight loss achieved through bariatric surgery.

Key Words: Obesity, infertility, BMI, Bariatric Surgery.

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Gastric bypass for severe intractable GERD in patient with gastric sleeve

Harold Guerrero
British American Hospital

I will present the surgical video titled "Gastric Bypass for Severe Intractable GERD in Patient with Gastric Sleeve." The patient is a 45-year-old woman with a history of a gastric sleeve for 7 years, during which her BMI decreased from 35 to 26. She also has a history of severe medically intractable gastroesophageal reflux disease (GERD) for 5 years, with endoscopic findings of Los Angeles grade C-D esophagitis. Gastric bypass surgery was proposed for GERD with a focus on reducing the gastric antrum.

In gastric volumetry, a dilated gastric sleeve and a sliding hiatal hernia were observed. Gastric emptying exam showed 50% emptying in 24 minutes, indicating accelerated gastric emptying. High-resolution manometry revealed an average distal contractile integral (DCI) of 500, integrated relaxation pressure (IRP) of 4, distal latency (DL) of 5 seconds, and esophageal pressures of 23, 24, and 28 mmHg, with an inverted esophagogastric gradient and a 1.5cm hiatal hernia. Twenty-four-hour pH impedance monitoring showed 120 acid reflux episodes, a DeMeester score of 47, mean nocturnal baseline impedance (MNBI) of 1200, and an acid exposure time (AET) of 12%.

The surgery began with the placement of a Nathanson retractor for dissection. The posterior aspect of the stomach was released along the greater curvature, and adhesions were dissected. Proximal dissection was carried out to the gastroesophageal junction, followed by dissection of the lesser curvature and pyloric sectioning. High dissection of the right diaphragmatic pillar via the lesser curvature was performed, aided by a Penrose drain for esophageal traction. Dissection of both right and left lateral pillars was completed, ensuring adequate reduction of the gastroesophageal junction into the abdomen.

Pillars were closed using Barbed sutures from bottom to top and back down. The stomach was sectioned at the level of the antrum, with reinforcement of bleeding points along the greater curvature. A 50cm alimentary limb was created, followed by gastroenteroanastomosis with manual reinforcement. Enteroentero anastomosis of the biliopancreatic limb was performed at 50cm. Methylene blue leak test was negative. Candy cane appendage was excised, and mesenteric gap and Petersen's space were closed.

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Gastric perforation after OAGB

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Introduction:
One Anastomosis Gastric Bypass (OAGB) is gaining popularity as a bariatric procedure, but it faces also some complications as biliary reflux, malnutrition and high risk of anastomotic ulcers.

Case Presentation:
We present a case of a 68 years old man who had been operated of a OAGB in a private center. Patient had an uneventful postoperatory and presented a very good weight loss and related disease evolution. He consulted to his General Practitioner due to increased bowel movements and epigastric pain, a blood test showed some parameters of malnutrition. Before the patient was submitted to a bariatric physician, he came to the Emergency Room with sudden abdominal pain, low blood pressure and tachycardia. A CT Scan was done and a perforated anastomotic ulcer was found. After resuscitation with iv fluids and wide spectrum antibiotics, he was taken to emergency laparoscopy where the perforated ulcer was confirmed, and a purulent peritonitis was found. The patient kept stable during the surgery, a conversion into a proximal Roux-n-Y Gastric bypass with resection of the previous GJ anastomosis and the perforated ulcer was performed.

The patient had a 300cm total bowel length with a TALL of only 130cm, so a previous bowel reconstruction was required.

After surgery the patient did well and was discharged on POD 6 with no complications. 5 months after surgery he gained some weight, improved his nutritional parameters and restored normal bowel movements.

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Gastroesophageal reflux disease following bariatric surgery

Linda Tang, Ewe Shen Lim, Sobhithan Sivakumar, Ian Adams, Michael Devadas
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Background:
Laparoscopic sleeve gastrectomy (LSG) has become the most performed metabolic bariatric surgery worldwide(1). It has been favoured for its minimally invasive approach, lack of anastomosis and disruption to the gastrointestinal tract. Since its introduction in 1990, development or exacerbation of gastroesophageal reflux disease (GORD) is a known late complication. It has been posited that this is multifactorial; the literature cites anatomical, physiological, and physical factors for example the disruption of antireflux mechanisms such as the angle of His (2, 3). Bariatric surgery aims to improve the quality of life of patients with a known improvement in cancer risk. However, symptomatic GORD threatens to disrupt the quality of daily living and even silent GORD may progress to Barrett's oesophagus and subsequently oesophageal adenocarcinoma(4, 5). Therefore, it is paramount that to further investigate GORD following bariatric surgery.

Objectives:
The objective of this study is to determine factors on oesophageal manometry which contribute to abnormal pH following laparoscopic sleeve gastrectomy (LSG) to guide our future practice to mitigate these risks.

Method:
A retrospective review of prospectively collected data by a single medical physiologist conducting oesophageal manometry was performed. A standardised data extraction sheet was utilised. Consecutive patients with dysmotility or reflux disease following bariatric surgery were included.

Results:
A total of 145 patients were studied. All patients underwent metabolic bariatric surgery in the form of a laparoscopic sleeve gastrectomy (LSG) by numerous surgeons. Patients were found to have dysmotility or clinically significant reflux disease following bariatric surgery. Multivariate analysis was performed to determine factors including operation type, presence of hiatus hernia, dysmotility and lower oesophageal sphincter pressures which contribute to reflux.

Conclusion:
GORD following metabolic bariatric surgery remains an area that requires further research. This multivariate analysis illuminates the areas that contribute to this.

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Group-matched study of sleeve, one anastomosis gastric bypass, sasi bypass and sasj bypass - 3 yr data

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Kirloskar Hospital, Hyderabad, India

Background:
To study the efficacy, safety, nutritional stability and complications data of these 4 procedures

Methods:
41 patients in each group were matched with similar ages, BMI, percentage with diabetes and HbA1c and their mean bowel lengths, and data was compared over 3yrs. Bypassed limbs of 100-200cm were used, depending on total bowel length; loop anastomosis done using a 45mm cartridge, leak test is done with methylene blue and Petersen's space is closed with non-absorbable sutures.

Results:
All 164 procedures were completed safely without any intra-operative or immediate post-operative complications; all patients were discharged within 2-3 days.

The percentage total body weight loss (%TBWL) was surprisingly better with SASI and SASJ at 3 years, as compared with the OAGB and SG groups, though mean BMI values and glycated haemoglobin (HbA1c) at 1 and 3yrs showed no significant difference; diabetes remission was 84%(SG), 87%(OAGB), 90%(SASI) and 100% with SASJ at 3 yrs.

At 3 years, there was good control of fasting and post-prandial glucose (FBS, PPBS) and also with cholesterol and triglycerides; SASJ having the best PPBS control.

Nutritional factors of proteins, albumin, calcium, vitamins D and B-12 were well maintained and similar in all groups; haemoglobin (Hb) and iron levels were similar, but reduced at 3yrs in all group

SG had no complications; 6 patients (SASJ) had nausea, vomiting, diarrhoea, dumping syndrome, hypoproteinemia and hypoalbuminemia, of which 2 required a partial reversal of the procedure [disconnection of the jejunal bypass while maintaining the sleeve]; the other 4 were managed conservatively. In OAGB group, 1 patient worsened to CKD and dialysis, one developed severe anaemia and one expired with coronary disease at 3yrs. SASI had greater nutritional problems with 2 needing partial reversal; 2 developed nutritional cirrhosis and 4 expired from coronary disease. No mortality was caused by any procedure in this study.

Conclusions:
All techniques of bypass and the SG can be performed safely with good results; SASJ has the added advantage of maintaining biliary access and the option of partial reversal, while maintaining the sleeve.

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Helicobacter pylori perforation in excluded gastric pouch following Roux-en-Y gastric bypass surgery – a case report and review of the literature.

Tanmay Gupta, Andrew Xu, Melanie Crispin, Joel Rabindran
Eastern Health

Background:
We present a case of a 50-year-old female who presented to the Emergency Department of a tertiary referral centre in Victoria with abdominal pain. She had a Roux-en-Y gastric bypass 15 years ago, had no NSAID exposure, and was a non-smoker. She had significant hypotension requiring vasopressor support and ICU admission. Emergency laparotomy found a pre-pyloric perforation within the remnant stomach, and she underwent completion gastrectomy. Histopathological evaluation found Helicobacter pylori (H. pylori) related perforation.

When performing Roux-en-Y gastric bypass surgery, consideration of preoperative screening and eradication of H. pylori may reduce postoperative complications, such as ulceration, perforation and bleeding at the gastric pouch, anastomosis, and excluded stomach, the latter of which cannot be examined with gastroscopy. The IFSO position statement offers guidance for gastroscopy screening pre-operatively in those undergoing Roux-en-Y bypass, however the recommendation for H. pylori screening is not universally applied.

Objectives:
This report aims to evaluate the literature regarding screening for H. pylori prior to bariatric surgery, and to highlight the importance of consideration of the excluded stomach as a potential site of perforation in patients who have undergone gastric bypass.

Methods:
A narrative review was conducted using Pubmed, Scopus, Embase, and Medline databases. Details of the case were extracted from hospital medical records.

Results:
Literature search demonstrated a paucity of evidence-supported recommendations regarding pre-operative screening for H. pylori in patients undergoing bariatric surgery. Whilst several studies have reported the correlation of anastomotic ulcers with H. pylori, there is still ambivalence surrounding the risk-modifying effects of eradication therapy pre-operatively. There are reports of perforation in the excluded stomach post-Roux-en-Y bypass surgery, often in the presence of known ulcer risk factors. IFSO guidelines encourage the consideration of pre-operative gastroscopy prior to bariatric surgery. Due to heterogeneity of included studies, no absolute recommendations supporting gastroscopy and H. pylori screening has been made, with practice varying among institutions.

Conclusion:
This case highlights the importance of considering the excluded stomach as a potential perforation site after Roux-en-Y gastric bypass. The authors encourage adherence to the IFSO position statement, recommending gastroscopy and H. pylori screening prior to bariatric procedures.

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High-Fat Diet and Hearing Loss through the Gut Barrier-Inner Ear Axis: A Narrative Review

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The elucidation of mechanisms by which high-fat diets exacerbate auditory dysfunction highlights the pivotal role of the gut barrier-inner ear axis hypothesis, integrating findings from epidemiological, experimental, and clinical research. Lipid-rich diets are shown to induce gut microbiota dysbiosis and compromise intestinal barrier integrity, leading to systemic translocation of pro-inflammatory cytokines and lipopolysaccharides, thereby escalating systemic inflammation. A significant finding is the impairment of the blood-labyrinth barrier, analogous to disruptions observed in the blood-brain barrier, which compromises cochlear homeostasis and contributes to sensorineural hearing loss. The analysis identifies the critical roles of inflammatory mediators, particularly tumor necrosis factor-alpha (TNF-α) and interleukin-6 (IL-6), whose levels are elevated in dietary lipid excess, mediating adverse effects on auditory pathways. Potential intervention strategies are proposed, including dietary modification and probiotic supplementation, to restore microbial equilibrium in the gut, reduce systemic inflammation, and ameliorate diet-induced auditory dysfunction. The analysis advocates for novel preventative and therapeutic paradigms targeting diet-related hearing impairment, highlighting the necessity of an integrated approach encompassing nutritional, microbiological, and otological disciplines.

Keywords: High-fat diet, Microbiota imbalance, Sensorineural hearing loss, Intestinal barrier integrity, Systemic inflammatory response

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How does a familiar face being the perioperative nurse, impact psychosocial well-being in bariatric surgery patients with ADD and ADHD?

Silvia Silva
Dr John Jorgensen

Introduction:
Bariatric surgery signifies a transformative journey for weight loss seekers, accompanied by physical and psychological hurdles. The preoperative nurse's role extends beyond clinical duties in the complex perioperative care. Among bariatric patients, those with Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) pose unique considerations. The challenges of these neurodevelopmental conditions emphasize the significance of understanding how a familiar face, particularly the perioperative nurse, influences the psychosocial well-being of this subset during surgery.

Methods:
Methods encompassed longitudinal research on Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) and examined the outcomes of bariatric surgery in 10 patients over a 2-year period. The study conducts reviews at various intervals: pre-operatively, 2 days post-operatively, 3 weeks, 3 months, 6 months, 9 months, 12 months, 18 months, and 24 months post-operatively. Assessments include behavioral observations, cognitive assessments, and symptom monitoring to gauge the efficacy of the Bariatric Nursing support. Such comprehensive tracking allows for the evaluation of both short-term and long-term effects, contributing valuable insights to enhance patient-centered perioperative care in this unique context. Patients were queried about their overall experiences, familiarity with their perioperative nurse, and perceptions of the impact on their comfort, anxiety levels, and emotional well-being during surgery.

Results:
Preliminary findings suggest that having a familiar preoperative nurse positively affects patient comfort, reduces anxiety, and fosters a stronger emotional connection, notably for patients with ADD and ADHD. Enhanced comfort, reduced anxiety, and strengthened emotional connections emerge as key outcomes. These initial insights underscore the potential significance of continuity in nursing care, urging further exploration of tailored perioperative strategies for individuals with neurodevelopmental conditions.

Conclusion:
The study contributes valuable insights into the psychosocial benefits of continuity in nursing care during bariatric surgery, offering implications for patient-centered perioperative practices. Further research is warranted to refine perioperative care models and address the unique needs of individuals with neurodevelopmental conditions

Keywords: Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD), Bariatric Surgery, Perioperative Nursing**.**

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ICG in bariatric surgery

Hayder Hamadi
Al Qassimi Hospital

This study explores the application of indocyanine green (ICG) fluorescence angiography in laparoscopic sleeve gastrectomy, aiming to improve surgical outcomes by enhancing the visualization of vascular supply and tissue perfusion in real time. By incorporating ICG technology, surgeons can better identify and preserve critical blood supply to the stomach and gastroesophageal junction, potentially reducing ischemia-related complications and staple line leaks postoperatively. This innovation represents a significant advancement in bariatric surgery, offering a promising approach to minimize risks and improve patient recovery.

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Ileal bariatric surgery in special cases: description of surgical technique

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Introduction:
The innovative ileal surgery, with its laparoscopic intestinal bipartition technique, emerges as a groundbreaking solution for patients battling obesity with a BMI over 50 kg/m2. This procedure shines for its simplicity and reduced risks.
Crafted by experts, it leverages the body's natural mechanisms, enhancing GLP-1 levels to curb appetite and accelerate weight loss efficiently.
Patients witness transformative results, achieving significant weight reduction and comorbidity resolution without the risks or complications of other surgeries like the Duodenal Switch (DS).
This technique marks a new era in obesity treatment, offering a safer, effective alternative for those seeking a healthier future.

Objective:
Description of the ileal surgery technique: laparoscopic intestinal bipartition (IB).

Methods and Materials:
A 23-year-old man with no medical history of interest, with a maximum BMI of 76 kg/m2 and a current BMI of 71 kg/m2, was considered suitable for bariatric-metabolic surgery and was proposed for ileal surgery: laparoscopic IB.

Firstly, a vertical gastrectomy is performed with a 36Fr Foucher tube. Then, the pylorus is identified, considering that the gastro-ileal anastomosis will be made 3 centimetres from the pylorus and will have a diameter of 4 centimetres. Next, the ileocecal valve is located, and counting of loops begins until reaching 270-300cm where the double-layer manual gastro-ileal anastomosis will be performed. As this anastomosis is so wide, about 70% of the food passes through this route without the need for duodenal exclusion. Finally, a mechanical ileo-ileal anastomosis is performed 60-80cm from the ileocecal valve.

The Petersen's and inter-mesenteric defects are closed and the anastomoses are checked with methylene blue and an air test. The total surgical time was 120 minutes, and the patient was discharged on the third postoperative day.
After 3 months, the patient had a 23% total weight loss.

Conclusions:
Performing ileal surgery in cases of patients with a BMI greater than 50 kg/m2 allows for optimal weight loss and a resolution of comorbidities comparable to hypoabsorptive techniques such as the DS.
However, it is technically easier and does not require dissection or duodenal exclusion, thus there is a lower surgical risk and a lower long-term risk of malnutrition.

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Impact of gastrojejunostomy anastomosis diameter on weight loss following laparoscopic gastric bypass: a systematic review

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Background:
Laparoscopic Roux-en-Y Gastric Bypass (RYGB) is a preeminent procedure for achieving significant weight reduction and alleviating obesity-related comorbidities. However, the influence of gastrojejunostomy (GJ) anastomosis diameter on weight loss remains unclear.

Objectives:
To examine the effect of GJ diameter on post-RYGB weight loss outcomes.

Methods:
A systematic search, limited to English-language publications, was conducted with expert librarian support. The risk of bias was evaluated using the Newcastle-Ottawa Scale. Due to the heterogeneity in the literature, a meta-analysis was not viable.

Results:
From 1,026 records screened, 6 studies met the inclusion criteria, demonstrating a range of GJ diameters and follow-up durations (1-5 years). Generally, smaller GJ diameters were associated with more significant weight loss in the short to medium term. There appears to be a threshold for the reduction in diameter; beyond this, the risk of complications such as stenosis may escalate. However, the studies indicated a moderate to low risk of bias and underscored the importance of accurate GJ area quantification post-operation.

Conclusion:
This review identifies a negative correlation between smaller GJ diameters and weight loss after RYGB. Future investigations should prioritize the standardization of measurement techniques and investigate the potential of intra-operative and artificial intelligence-based methodologies for optimal GJ diameter determination, with the aim of augmenting patient outcomes in metabolic bariatric surgery.

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Impact of gastro-jejunostomy diameter on weight loss and recurrent weight gain post Roux-en-Y gastric bypass

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Background:
Laparoscopic Roux-en-Y Gastric Bypass (RYGB) is the second most prevalent metabolic bariatric surgery worldwide and is effective in achieving weight reduction as well as assuaging obesity-related comorbidities. The diameter of the Gastro-Jejunostomy (GJ) anastomosis in RYGB may affect long term post-operative weight outcomes.

Objectives:
This study compares 30mm vs 45mm diameter GJ in terms of weight loss and recurrent weight gain.

Methods:
A database of bariatric patients from January 2017 to October 2022 was analyzed, focusing on demographics, ASA grade, BMI, GJ diameter, and weight at 12, 24, and 60 months.

Results:
Of the 1,427 patients who had RYGB, 80.2% were female, with a median age of 48 (IQR 39-55). The median starting BMI was 44.6 Kg/m2 (IQR: 40.4-50.1) and the majority (72.0%) were ASA III. The 30mm group comprised 36.7% of the patients. There were no notable differences in baseline demographics such as gender, age, ASA classification, and medical history between the groups. The median Total Weight Loss (TWL) at 12 months was similar for both groups (30mm: 26.5%, 45mm 26.3%, p=0.897), but at 24 months the 30mm group had a significantly greater TWL (29.7% VS 27.4%, p=0.003). The gap between the two widened by 60 months, with the 30mm group demonstrating a TWL of 31.4% compared to 28.1%, p<0.001). Recurrent weight gain (defined as regaining >50% of the maximum weight lost) was also lower in the 30mm group at 5 years (13.6% vs 14.2%, p<0.001)

Conclusion:
A 30mm GJ diameter is associated with a more optimal clinical response compared with 45mm in terms of BMI reduction up to five years post-RYGB. Further research is needed to assess the impact of anastomosis size on long-term improvement of obesity related complications and recurrent weight gain.

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Implantation of the magnetic device for the augmentation of the inferior esophageal sphincter pressure- implantation for GERD post-sleeve gastrectomy: Patient reported outcomes after one year

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Background:
A relatively new device augments the lower oesophageal sphincter with magnetic beads to reduce symptoms of Gastroesophageal Reflux Disease (GERD).

Objective:
This study provides insight on the use of the magnetic device in management of GERD symptoms post-Sleeve Gastrectomy (SG).

Methods:
Data from patients who have undergone a magnetic device implantation between January 2019 and December 2022 and had a prior SG with a 36F bougie for weight loss were collected and analysed. Patients were categorised to “early” and “late” intervention which was defined as ≤2 years and >2 years between the onset of GERD symptoms and the magnetic device implantation, respectively. GERD-health-related quality of life (GERD-HRQL) and DeMeester score were used to evaluate patient reported outcomes. Data is represented as mean ± standard deviation unless otherwise stated. Statistical significance was set at a p-value of less than 0.05.

Results:
Patients had *de novo* presentation of GERD (n=7) occurring 3.46 ± 2.11 years post-SG. At the time of the implantation of the magnetic device, all were on proton pump inhibitors (PPIs) and two (28.57%) were on additional antacids for 2.58 ± 1.29 years. There were no complications post-LINX® implantation. Compared with their baseline scores, patients with early intervention (n=4) showed improvements in score for the GERD-HRQL (33.75 ± 7.68 v 11.25 ± 8.30, p=0.039) and DeMeester (4 ± 1.41 v 1.5 ± 1.29, p=0.015) at one-year post-magnetic device implantation. Patients with late intervention (n=2), on the other hand, showed no statistically significant differences in these measures (p>0.05).

Conclusion:
Though the magnetic device reduces symptoms of GERD in some patients who had undergone a SG, majority still report usage of PPIs or antacids in management of the symptoms. Additionally, data suggests that the resolution of symptoms seem to depend on a variety of factors such as the time to intervention, severity of the symptoms, and the number of beads used. Future studies should use clinical objectives such as pH studies and high-resolution manometry to match the patient reported outcomes for a more complete evaluation of the magnetic device.

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Incidence and factors affecting gastro-esophageal reflux disease before and after laparoscopic sleeve gastrectomy

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Background:
Gastro-esophageal reflux disease (GERD) is very common in patients with severe obesity. Laparoscopic sleeve gastrectomy (LSG) surgery is a type of bariatric surgery that is conducted for losing weight of morbidly obese patients. The results of various studies had many contradictions regarding the effect of this surgery on the GERD status.

Methods:
This prospective cohort study conducted on patients with severe obesity who underwent laparoscopic sleeve gastrectomy surgery referred to Shariati Hospital in Tehran between 2020 and 2022. Demographic characteristics were collected using a demographic questionnaire. To check the GERD status, the patients underwent upper gastrointestinal endoscopy before and six months after the surgery, and their GERD status was determined. For data analysis, chi-square tests. Fisher's exact test, independent t-test, and one- way analysis of variance (ANOVA) were used.

Results:
Out of 98 patients, 71 (72.4%) were female, with a mean age of 36.83 ± 10.14 years. The GERD prevalence was 13.3%, and the postoperative incidence was 5.88%. Among demographic factors examined in this study, having a hiatal hernia was the only factor related to the incidence of GERD. Laparoscopic sleeve gastrectomy surgery has been an effective surgery for reducing GERD in patients with severe obesity.

Conclusion:
GERD prevalence in the Iranian population is not high compared to other populations, and hiatal hernia is one of its predictors. Also, laparoscopic sleeve gastrectomy surgery is a practical and safe solution for treating patients with obesity and GERD.

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Incidence of gallbladder disease following OAGB surgery: a five-year retrospective study

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Background:
OAGB surgery is an effective bariatric procedure for weight loss and amelioration of obesity-related comorbidities. However, the formation of gallbladder stones has been recognized as a potential postoperative complication. This study aimed to assess the incidence of gallbladder disease, including symptomatic and asymptomatic cases, in patients undergoing OAGB over a five-year period.

Objectives:
To evaluate the occurrence of gallbladder stones and associated symptoms in patients who underwent OAGB, and to investigate the need for cholecystectomy and incidental findings of biliary sludge or asymptomatic gallbladder stones.

Methods:
A retrospective analysis was conducted on 152 patients (23 males, 129 females) who underwent OAGB between January 2019 and January 2024 at a referral center for bariatric surgery in Tehran. Demographic data, including age and pre- and post-operative body mass index (BMI), were collected. All patients received ursodeoxycholic acid for six months postoperatively. Patients were followed for five years, during which abdominal sonography was performed to evaluate gallbladder health. Symptomatic cases were identified, and cholecystectomy was performed when indicated.

Results:
The average age of patients was 42.18 ± 11.8 years, with a mean preoperative BMI of 46 ± 4.5 kg/m². One year after OAGB, the mean BMI reduction was 29.7 ± 4 kg/m², with an average BMI of 31 ± 4.3 kg/m². Fifteen patients (9.9%) developed symptomatic gallbladder stones at a mean of 9.86 months postoperatively and underwent cholecystectomy. Five-year follow-up sonography revealed incidental findings of gallbladder stones in five patients (3.3%) and biliary sludge in five others (3.3%). Additionally, one patient (0.7%) presented with both gallbladder sludge and stones without accompanying symptoms.

Conclusion:
Gallbladder disease, including symptomatic and asymptomatic cases, is a notable complication following OAGB surgery. A significant proportion of patients developed symptomatic gallbladder stones necessitating cholecystectomy, while incidental findings of gallbladder stones and biliary sludge underscore the importance of long-term monitoring of gallbladder health in post-OAGBpatients. Further studies with larger sample sizes are needed to determine the best approach to minimizing this complication in patients undergoing OAGB surgeries.

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Increasing complexity of bariatric patients attending a pre-surgical weight management clinic demands the expert skillset of an interdisciplinary team

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Background:
There are now more than 1 billion people in the world with obesity. Obesity is recognized as a complex, chronic, and multifactorial disease which is often associated with multiple comorbidities requiring increasing numbers of medicines. The Weight Management Service (WMS) was established in response to an urgent need to manage an increasing metabolic bariatric surgery wait list at a public hospital service. The WMS offers a triage and assessment process to determine eligibility for metabolic bariatric surgery. An interdisciplinary clinical support team consisting of a physician, dietitians, a psychologist, and exercise physiology services provides the patient with pre-operative lifestyle change / self-management skills and supports them in preparation for surgery. The WMS also offers post metabolic bariatric surgery dietetics follow up.

Objectives:
To assess patient outcomes of the WMS prior to and post-surgery and determine if there was any change in patient comorbidities and medication use over a 5-year period.

Methods:
A retrospective file review and comparison of two cohorts of patients from 2018-2020 and 2022-2023 was undertaken. Data was collected regarding the number of visits to the clinic, the change in body weight and body mass index (BMI), the number and type of comorbidities, and the number of medicines pre- and post-surgery.

Results:
All patients who proceeded to surgery between 2018-2020 and 2022-2023 were reviewed. Weight and BMI were observed to decrease leading up to and significantly decreased, post-surgery. The number of comorbidities per patient and medicines prescribed per patient pre- and post-surgery increased over the 5-year period. The average waitlist time for patients to enter WMS was 6.54 years. In 2023, the average wait time to proceed to surgery was 1.24 years.

Conclusion:
The WMS supports patients psychologically and physically to be prepared for surgery to ensure the best possible outcomes for the patient and optimal in surgical weight loss. The increase in complexity of patient comorbidities highlights the need for the expert skillset of an interdisciplinary team.

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Influence of bariatric surgery on weight reduction and control of chronic diseases among patients affected by obesity in Santa Maria - Brazil

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Background:
Currently, obesity is a major global health problem due to its serious consequences and its increasing prevalence. Bariatric/metabolic surgery has demonstrated sustained weight loss and efficient long-term control of comorbidities associated with obesity.

Objectives:
The study aims to determine the influence of bariatric/metabolic surgery on changes in body mass index (BMI) and weight, in the control of type 2 diabetes mellitus (T2DM), hypertension and dyslipidemia among patients with obesity in the city of Santa Maria-RS, Brazil.

Methods:
This is a retrospective, descriptive and cross-sectional study, quantitative approach, through database consultation, in the period 2020-2021. The study was carried out in a private Baratric/Metabolic Surgery center in the city of Santa Maria – RS, Brazil. 100 patients were included in the studied period. They were evaluated regarding sex, age, comorbidities (dyslipidemia, T2DM and systemic arterial hypertension), BMI, weight, HbA1C, blood pressure and lipid levels (total cholesterol, triglycerides and LDLc preoperatively and 6 months after bariatric/metabolic surgery. For all data, the results were considered significant ($p<0.05$). Quantitative data analyzes were described by mean and standard deviation and the longitudinal variability of quantitative medians were evaluated using generalized estimating equations.

Resuls:
The patients (n=100) were mostly female (78.6%), had at least four comorbidities (61.3%) and a mean age of 38.6±10.2 years. Preoperatively, the patients were evaluated with BMI (42.3±7.0) and weight (114.7±22.0). After surgery (6months), BMI (29.8±3.8kg/m2) and weight (80.2±14.3) of patients decreased, reducing 62.0% of excess weight. There was a reductionin in the average of HbA1c of (5.3±0.5) in patients with T2DM (n=40). The prevalence of systemic arterial hypertension (n=37 preoperatively) reduced 45.8%. The average levels of total cholesterol, triglycerides and low-density lipoproteins (HDLc) of those who had dyslipidemia (n=70) were, respectively, reduce by 5.3±0.5mmol/L, 87(62- 106mmol/L) and 47.6±10.5mmol/L.

Conclusion:
The results suggest that, in addition to weight reduction, bariatric/metabolic surgery improves the control of diabetes, hypertension and dyslipidemia in patients with obesity.BACKGROUND: Currently, obesity is a major global health problem due to its serious consequences and its increasing prevalence. Bariatric/metabolic surgery has demonstrated sustained weight loss and efficient long-term control of comorbidities associated with obesity.

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Influence of obesity on cefuroxime pharmacokinetics

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Introduction:
Cefuroxim is very often used in abdominal surgery for infection prophylaxis at the standard dose of 1.5 g i.v. Typically, this dose is not adjusted for body weight.

Objectives:
The aim of our study was to determine differences in cefuroxime pharmacokinetics between patients with and without obesity after the administration of 1.5 g at induction of anesthesia. We paid special attention to the time above the minimum inhibitory concentration (t > MIC) in our study patients, and chose the highest necessary cut-off level (8 mg/l against E. coli) for the calculation.

Material and Methods:
We included a group of patients with a BMI > 40 kg/m² (n=19) and a reference group with a BMI between 18-30 kg/m² (n=21). All patients were scheduled for an elective surgery, e.g. cholecystectomy (n=22), gastric bypass (n=1) or sleeve gastrectomy (n=17). Body composition of all patients was determined using bioelectrical impedance analysis. Before, during and after surgery, blood samples were obtained from the patients at 12 time points to measure cefuroxime concentrations by LC-MS/MS. We calculated t > MIC, the maximum concentration c_{max}, the time at maximum concentration t_{max}, and the $AUC_{0\text{-}24h}$.

Results:
Anthropometrical data were highly different between both groups (mean, 95%CI): BMI 48.7 (46.6-50.2) vs. 26.4 (24.8-28.1) kg/m^2, and body fat (mean) 52,1 vs. 33.1%. Surgical procedure length was similar (mean): 63.4 vs. 65.0 min with the exemption of the gastric bypass procedure that took about 163 min. t_{max} was reached at 0,2 (0,13-0,23) vs. 0,2 (0,13-0,25). 0,2 (0,13-0,23) differed by only 0.2 hours between the obesity and the reference group (mean, 95%CI): 5.9 (5.2-6.7) *vs*. 5.7 (5.1-6.4) h. t > MIC was significantly longer than the duration of surgery in all patients. The two groups also did not differ significantly from each other in c_{max} and $AUC_{0\text{-}24h}$.

Conclusions:
Obesity has no clinically relevant impact on the pharmacokinetic properties of cefuroxime. Based on these findings, no specific cefuroxime dose adjustment is necessary to reach plasma concentrations and t > MIC as widely accepted to be effective in the prevention of perioperative infections in patients with severe obesity.

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Initial 30 cases experience of laparoscopic sleeve gastrectomy with stapling first

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Background:
Sleeve gastrectomy has become the most commonly performed bariatric procedure in the last decade due to its low short-term and long-term complication rate compared to other procedures. However, there are difficulties in overcoming the learning curve such as mastering laparoscopic techniques in the patients affected by severe obesity, being able to safely expose at the angle of His, and stapling. I have been performing in situ sleeve gastrectomy where stapling for sleeve formation is performed before dissection and division of the remnant stomach along the greater curvature. I would like to report the initial 30 cases experience of a beginner general surgeon.

Material and Method:
From January 2021, thirty cases of laparoscopic sleeve gastrectomy were performed in female patients. Four to 5 trocars were placed. After insufflation, window formation at the antrum was performed with ligation of the perigastric vessles along the greater curvature 4 cm proximal from the pylorus.Two black cartridges were utilized for the initial stapling of the antrum and near the incisura angularis Addition 2 black cartridges were used for the following stapling. The posterior wall of the stomach near the angle of His was lifted and dissected for identification and exposure of the left crus muscle. Two to 3 purple cartridges were used for the completion of the sleeve without forming “dog ears”. Sero-serosal suture with Barbed Sutures 3-0 was performed along the stapled side. The resected stomach was completely mobilized with ligation of the remnant perigastric vessels along the greater curvature and removed from the abdomen. All of the operations were performed under direct supervision of an experienced bariatric surgeon.

Result:
The mean age of the 30 female patients was 35.1±10.5 years. The mean weight was 97.22 kg and the mean body mass index was 39.17±16.8 kg/m2. Nine patients had a history of diabetes mellitus (approximately 30%). The average operation time was 79±16.3 minutes. The average postoperative hospital stay was 3±0.7 days. There were no complications.

Conclusion:
Laparoscopic sleeve gastrectomy with stapling first is technically feasible and safe to perform by a beginner surgeon.

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Initial experience of laparoscopic sleeve gastrectomy with duodenojejunal bypass

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Background:
In East Asian countries, where the incidence of gastric cancer is high, sleeve gastrectomy tends to be preferred over gastric bypass. In addition, in some institutions, duodenojejunal bypass (DJB) is additionally implemented to increase the metabolic effect. However, the high difficulty of laparoscopic sleeve gastrectomy (LSG) with loop DJB tends to act as an obstacle.

Objectives:
The aim of this study was to evaluate the short-term outcome of the initial cases of LSG with loop DJB.

Methods:
All cases of LSG with loop DJB performed at our institution were retrospectively reviewed. Preoperative conditions, surgical outcomes, postoperative complications, and improvement in diabetes mellitus were reviewed. Sleeve gastrectomy was performed as recommended and reinforced suture was performed along the staple line. The inferior border of the duodenum was dissected, the posterior portion of the duodenum was also dissected, the vasculature of the upper border of the duodenum was preserved, and a window at the upper border of duodenum was made and cut using a linear stapler. The jejunum 2 m below the Treitz ligament was connected to the posterior wall of the duodenum using a linear stapler.

Results:
Three cases were performed from October 2021 to December 2022. All were female, and their preoperative BMIs were 38.6, 34.2, and 35.4 Kg/m^2, respectively. The operation time and length of postoperative hospital stay were 205, 165, 180 minutes and 9, 8, and 6 days, respectively, and there were no surgery-related complications. Diabetes improvement status was remission, improvement, and improvement, respectively. However, it should be taken into account that the follow-up period is generally short and varies from case to case.

Conclusion:
LSG with loop DJB could be safely performed, and it might be effective in improving diabetes mellitus.

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Initial experience with singel stage laparoscopic conversion from gastric bypass to SASI-S (Singel anastomosis stomach-ileal bypass with sleeve gastre

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Background:
Managing recurrent weight gain after gastric bypass surgery poses challenges. Standard approaches like distalization of the bypass and pouch revisions often yield only moderate weight loss, which may not suffice. In our department, we've initiated the use of laparoscopic conversion from gastric bypass to SASI-S (single anastomosis stomach-ileal bypass with sleeve gastrectomy) as a treatment for severe recurrent weight gain post-gastric bypass. This video abstract showcases our surgical technique and initial experiences.

Objectives:
To present our surgical technique and initial experiences with single-stage laparoscopic conversion from gastric bypass to SASI-S.

Methods:
Four patients underwent laparoscopic conversion from gastric bypass to SASI-S. The average BMI was 41 (obesity II, ASA 2), with an average recurrent weight gain after Nadir of 37.5 kg.

Results:
The average operation time was 191 minutes (range 170-217). There was one perioperative bleeding necessitating conversion to laparotomy and one postoperative intraluminal bleeding requiring transfusion. The median hospital stay was 5 days (range 2-5). Three months post-surgery, weight loss ranged from 17 to 27 kg. One patient developed gastrogastric stenosis requiring endoscopic dilatation.

Conclusion:
Conversion from gastric bypass to SASI-S shows promise as an option for severe recurrent weight gain after gastric bypass surgery.

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Injection experience in a IGB treatment combination for a patient affected by obesity.

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Rs laser clinic

Introduction:
Endoscopic intra gastric balloon placement provides an alternative method for weight loss in patients who fail to respond to life style modification, diet restriction and pharmacological therapy. Intra gastric balloon (IGB), placement can be used as a temporary measure for weight loss in obesity with or without related complications or bridge therapy in severe obesity prior to bariatric surgery.

Methods:
There were 20 patients who underwent an endoscopic procedure: 1 group – IGB, n=5; 2 groups – IGB + Botox injection, n=10. The patients, aged between 18 and 64, with a body mass index (BMI) of 27.0 to 40.0 kg/m^2, were enrolled. Botox injection was performed under endoscopic control (200 units). The intragastric balloon was inserted under endoscopic control, and fluid infiltration into the balloon was 600 cc (less then recommended). All patients received diet and exercise counseling only during the therapy period (0-6 months). Six months later, they were seen in the clinic to assess outcomes.

Results:
There were 16 (80%) females and 4 (20%) males. The mean age was 41 years, mean BMI was 35 kg/m^2, mean weight was 93.5±5.8 kg, and mean waist circumference was 100.6±14.9 cm. All balloons were removed safely, and no serious adverse events were reported. The removal of all balloons was conducted safely, and no serious adverse events were reported. Accommodative symptoms, though present, were not severe and of brief duration. Mean total bodyweight loss at 32 weeks 1st group was 15·0% (95% CI 13·9-16·1) in the at 2nd group versus 23% (20-26) ($p<0·0001$). Upon balloon removal, there was a noteworthy and statistically significant improvement in patients' weight, BMI, body fat, waist circumference, diastolic blood pressure, HbA1C, cholesterol, thyroid-stimulating hormone, aspartate transaminase, and alanine transaminase. Quality of life was significantly improved at 6 months.

Conclusions:
This study is to demonstrate 6-month efficacy and performance outcomes of the combination IGB and Botox injection.

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Integrating minimally invasive bariatric surgery with lessons from gastric cancer surgery

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Background:
Laparoscopic procedures in bariatric surgery are evolving to enhance cosmetic outcomes and minimize postoperative complications. This study demonstrates the results of bariatric surgery achieved through the application of surgical techniques derived from gastric cancer surgery.

Methods:
Several surgical techniques from gastric cancer surgery were implemented in bariatric surgery, including: (1) V-shaped liver retraction, (2) Reduced port surgery, (3) Intraoperative endoscopy and (4) Multi-degree-of-freedom articulating device. A single surgeon, with experience in over 1000 gastric cancer surgeries, performed consecutive bariatric surgeries starting from the initial case. The study analyzed short-term results, including operation details, postoperative complications, outcomes of weight loss, and the learning curve.

Results:
A total 94 consecutive laparoscopic sleeve gastrectomy cases were performed from 2019 to 2022. The mean age of 94 patients was 35.9±9.7 years, with 58 (61.7%) being female. The mean body mass index (BMI) was 40.9±6.2. Type 2 diabetes was prevalent in 46.8% of the patients. On average, 3.3±0.5 trocars were used per surgery. The mean estimated blood loss and hospital stay after surgery were 20.1±36.3 cc and 3.3±0.6 days, respectively. There were no complications reported for postoperative leakage, bleeding, or passage disturbance, and no mortality occurred. At 12 months, the mean percentage total weight loss (%TWL) and excess BMI loss (%EBMIL) were 28.5% and 79.7%, respectively. The mean operation times was 109.5±27.4 minute, with a plateau observed at around the 30th case.

Conclusion:
Bariatric surgery can be effectively performed by a gastric cancer expert surgeon using techniques derived from gastric cancer surgery.

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Integrative dietary management and tailored nursing care: enhancing control and well-being in Type 1 diabetes patients

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Objective:
To investigate the effectiveness of an integrated strategy involving dietary management and personalized care for Type 1 Diabetes (T1D) patients, aiming to achieve a balance between blood glucose control and overall health. Methods and Materials: Develop strategies including carbohydrate counting, low-sugar diets, and postprandial monitoring to finely control patients' diets and minimize blood glucose fluctuations. Through collaborative efforts of the medical team, create personalized care plans covering diet, lifestyle, and psychological support to meet the diverse needs of patients. Implement the integrated strategy within the patient group, emphasizing regular monitoring, educational training, and technological assistance to achieve comprehensive disease management.

Results:
Effectiveness of Dietary Management Strategy: The implementation of the dietary management strategy resulted in significant improvements in patients' adherence to carbohydrate counting and a low-sugar diet, leading to more stable postprandial blood glucose control. According to the research by Smith et al. similar dietary interventions can reduce the amplitude of daily blood glucose fluctuations in patients by approximately 20-30%. Additionally, the study by Johnson and Lee indicated that the adoption of a low-sugar diet in T1D patients can reduce glycated hemoglobin levels by 1.5% within three months.

Comprehensive Benefits of Personalized Care Plans:
The integration of personalized care plans significantly improved patients' quality of life, enhanced psychological support, and the utilization of technological assistance, providing comprehensive support for disease management. Martinez and Gonzalez highlighted in their study that personalized care plans including psychological support are crucial for improving the emotional state and self-management capabilities of T1D patients, potentially reducing symptoms of depression and anxiety by up to 40%.

Promotion of Balance through Integrated Strategy:
The implementation of the integrated strategy enabled patients to better balance blood glucose control with overall health, effectively adapting to the challenges posed by the disease. Research by Brown and Davis showed that comprehensive blood glucose management strategies improve patients' confidence in self-managing their disease and enhance control over daily life activities.

Conclusion:
This experiment concludes that integrating dietary management strategies with personalized care plans is an effective approach to enhance blood glucose control and achieve a comprehensive balance of health in T1D patients.

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Intensive tracking and supplementation of vitamins and minerals post-metabolic bariatric surgery: a pilot study assessing 12-month impact on nutrition

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Background:
Regular testing for vitamins and minerals is recommended before and after metabolic bariatric surgery (MBS) to manage and avert micronutrient shortages. Despite these measures, such deficiencies frequently persist post-surgery, influenced by changes in digestion, dietary habits, and the absorption of nutrients. This underscores the need for ongoing vigilance and customized treatment strategies.

Objective:
This research explores the impact of rigorous monitoring and tailored supplementation with bariatric-specific multivitamins following metabolic bariatric surgery (MBS) among a varied Asian demographic.

Methods:
Using a design that evaluates comparative effectiveness, this study engaged two sets of patients undergoing MBS sleeve gastrectomy, each comprising 50 individuals. While one group was given conventional micronutrient supplements, the others received supplements designed explicitly for bariatric needs. Blood samples were collected and analyzed at three key points: before and 6 and 12 months following surgery. The research applied a simple t-test to compare the groups at each interval. Additionally, a linear mixed model was employed to investigate variations from the initial baseline between the two groups over the 6 and 12-month periods, considering initial measurements and factors such as gender and ethnicity.

Results:
Our assessment analyzed multiple elements, including Vitamin D, Iron, Ferritin, Iron Saturation, Folate, Vitamin B12, and Adjusted Calcium. At the six-month postoperative mark, patients receiving standard supplements had Vitamin D levels that were below the recommended healthy range (24.17 ±10.25 ug/L, with a significance of $p<0.001$), in contrast to those who were provided with bariatric-specific supplements, achieving the desired levels (32.59 ±12.49 ug/L, $p<0.001$). A year after the surgery, notable enhancements were observed in Vitamin D (with levels rising from 8.3±9.5 ug/L to 13.1±8.4 ug/L, $p=0.05$) and iron (from 2.2±6.0 umol/L to 5.9±8.6 umol/L, $p=0.05$) in the group that received bariatric-specific supplements. Furthermore, an analysis using the linear mixed model demonstrated significant increases in Vitamin D ($p=0.006$) and ferritin levels ($p<0.001$) within this group.

Conclusions:
Micronutrient deficiencies, notably vitamin D and iron, are frequently encountered after bariatric surgery. This research underscores that meticulous monitoring, coupled with increased micronutrient supplementation, can substantially enhance levels of vitamin D, iron, and ferritin, thereby diminishing deficiency risks.

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Intragastric balloons - are they for the long term?

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Background:
Intragastric balloons (IGB) are a bridging therapy to bariatric metabolic surgery in people with obesity. If sufficient weight loss to progress to surgery is not achieved, a second period of IGB treatment may be considered. Traditionally, IGBs were left in situ for 6 months prior to removal. The COVID-19 pandemic limited patient interactions and IGB treatment duration was increased to 12 months, on advice of the manufacturer.

Objectives:
We aimed to assess outcomes in patients with severe obesity undergoing sequential IGB treatment. We specifically assessed weight loss trends associated with retention of IGBs beyond 6 months and safety of sequential IGBs. The time period of data collection accounts for the changes in balloon removal protocol that resulted during the pandemic, addressing a current literature gap.

Methods:
Consecutive patients who underwent IGB treatment between May 2014 and February 2023 were identified. We recorded outcomes including weight and BMI at 3-monthly intervals until balloon removal, progression to bariatric metabolic surgery and morbidity.

Results:
45 patients were identified. Median BMI on IGB insertion was 62kg/m^2. As with the typical bariatric population, the majority (73.3%) were female. Approximately one third were diagnosed with diabetes or hypertension.

Median weight loss with the first IGB was 15.2kg (8.8% weight loss). 11 patients (24.4%) had a second IGB, with median weight loss of 3.3kg (1.9%).

22 patients (48.8%) met criteria for surgery at completion of IGB treatment. Only one of whom had multiple balloons.

During first IGB, median weight loss was observed during the first three quartiles (months 0-3: 10.1kg; months 3-6: 2.3kg; months 6-9: 4.2kg). Median 2kg was gained during months 9-12. 16 (35.6%) of first IGB had complications, the most common being vomiting. 2 (18.2%) of second IGB had complications. Median time from balloon insertion to complication was 14 days.

Conclusion:
Greatest weight loss was achieved during first IGB treatment. Sequential IGB treatment does not lead to significant weight loss and is not recommended. Prolongation of balloon treatment beyond 6 months can safely facilitate further weight loss, although patients appear to gain weight during months 9-12.

ePoster

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Intragastric balloons on social media: A cross-sectional study

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Background:
Intragastric balloons (IGB) are increasingly promoted in the management of obesity, as a reversible, non-operative intervention. Social media is progressively being utilised as a main source of health information for patients with obesity; however, little is known about the current use of social media in the field of bariatric/metabolic interventions and IGBs.

Objectives:
This study aims to assess nature and quality of the information currently available about IGBs on three currently popular short-form video social media platforms.

Methods:
New accounts were created on YouTube, Instagram, and TikTok. The term “gastric balloon” was searched on each platform, and relevant metadata from each included video was extracted. Two independent reviewers scored the video content against the 2021 AGA Clinical Practice Guidelines (CPG) on Intragastric Balloons and the DISCERN criteria for quality. Collected data was analysed with descriptive statistics.

Results:
167 videos were included across the three platforms, with most of the videos originating from the United States (44.8%). Information was most often presented by a medical centre on Shorts (47.7%), a doctor on Reels (44%), and by individuals with personal experience on TikTok (71.2%). The main objective of the content was for medical services promotion on Shorts and Reels (75.4% and 66% respectively), whereas TikTok content mostly focused on support and motivation (73.1%). Videos with commercial content (promotion of medical services/products) were the majority, at 61.7%. Most videos (67.1%) on each platform were not consistent with the CPG. On the question of the overall quality of the content as a source of health information, the mean (SD) score was 2.52 (0.96) on a five-point scale; this did not significantly differ between videos with or without commercial intent. Commercial intent, however, was associated with significantly lower scores on describing the risks of the procedure ($p = 0.0024$).

Conclusion:
Medical professionals and brands, as well as patients themselves, are utilising social media to inform prospective patients about IGB. A majority of content was created with commercial intent. Information distributed was poorly compliant with the CPG. These results suggest that patients should take care in interpreting information about IGBs distributed on social media.

ePoster

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Intravenous clevidipine for perioperative management of malignant hypertension due to renal artery stenosis in bariatric-metabolic surgery

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Background:
Arterial hypertension is associated with a significant incidence of perioperative complications with an increase in mortality and morbidity.

Clevidipine is an intravenous calcium channel antagonist with a rapid onset of antihypertensive action and ability to reduce blood pressure in a dose-dependent fashion by decreasing arteriolar resistance without affecting venous capacitance vessels. Intravenous clevidpine undergoes rapid distribution and metabolism (ester hydrolysis), has a small volume of distribution, a terminal half-life of 15 minutes making it an ideal and titratable agent in the patient with obesity.

Objectives, Methods, Results:
39-year-old man with severe obesity (BMI 53), renal artery stenosis, refractory malignant hypertension (190/100 mmHg), chronic renal impairment (eGFR 43, Creatinine 162 mmol/l), microalbuminuria (193mg/mmol) and complicated unstable diabetes (nephropathy, retinopathy, peripheral vascular disease) presented for a laparoscopic sleeve gastrectomy.

Pre-operative assessment and optimisation were undertaken. Hypertensive control was maintained with maximal doses of: - ß-block (Metoprolol 200mg tds); diuretics (Aldactone 25mg bd; frusemide 40mg bd); α1-receptor blocker (Prazosin 5mg tds); angiotensin receptor blockers (Irbesarten 300mg/Hydrochlorothiazide 25mg); calcium-channel antagonist (Lercanidipine 10mg); α2-agonist (Monoxidine 400mg mane, 800mg nocte).

Given the complex interplay of anaesthesia, the myriad pharmacological actions of the anti-hypertensives, and intraoperative risk of blood loss in the setting of hypertension - perioperative priority was to maintain renal perfusion pressure (and systemic blood pressure), minimise renal hypotension, post-operative acute on chronic kidney injury and other end-organ dysfunction.

Clevidipine was started preoperatively and maintained until the patient was tolerating clear fluids and able to take his oral antihypertensives. In contrast to other intravenous agents (nitrates or sodium nitroprusside) used for the acute management of hypertension, clevidipine was titratable (with minimal risk of hypotension), exhibited no tolerance or tachyphylaxis, and was metabolised and excreted independently of renal function.

Post-operative recovery was uneventful with renal function indices within 5% of preoperative values and the patient was discharged on day 3 post-surgery.

Conclusions:
Clevidipine used in this complex and unique case was well tolerated and appeared to be the agent of choice to control the patient's malignant hypertension perioperatively.

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ePoster

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Investigating the effectiveness of sleeve gastrectomy surgery on functional capacity and mental health of patients affected by obesity

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Background:
The purpose of this observational cohort study is to investigate the long-term effects of Sleeve Gastrectomy surgery (LSG) on indicators related to functional capacities and mental health of patients affected by obesity who undergo surgery.

Objectives:
Evaluation of changes in breathing power, aerobic capacity, body composition, spirometry, physical function, quality of life, and the impact of weight loss on mentioned indices after LSG.

Methods:
32 patients affected by severe obesity [class 3 or class 2 with at least a single related co-morbidity of obesity] who underwent LSG surgery were subjected to the examinations before and after the operation and the results were compared.

Results:
During the follow-up of patients for about 12 months, the weight change was 23.42 (19.17-27.67 CI95%) kg, the change in fat mass was 16.19 (13.14-19.23 CI95%) kg and Lean body mass was 7.27 (5.79-8.74 CI95%) kg. The total weight loss percentage was 20.64% (17.26-24.02 CI95%) and the excess weight loss percentage was 39.53% (32.93-46.13 CI95%). The change of all these variables in this study was statistically significant.

The ratio of total body fat loss to fat-free loss (FML/LBML Ratio) in this study was 2.53 (2.11-2.95 CI 95%). Maximal inspiratory pressure (MIP) increased by 7.25 (0.96-13.53 CI95%) cmH2O. The amount of FEV1 increased by 0.22 (0.13-0.31 CI95%) and FVC by 0.38 (0.27-0.49 CI95%) liters and the FEV1/FVC ratio was 2.91 (0.39-5.39 CI95%) percent decreased. All respiratory indices had significant changes in the statistical test. The rate of improvement of respiratory indices was linearly related to TWL%. The distance walked in 6 minutes increased by 53.72 (26.62-80.82 CI95%) meters in patients, which was statistically significant. Changes in the quality of life in all subgroups of the IWQOL-Lite questionnaire were significant in the direction of improvement.

Conclusion:
The significant effects of surgery on the mentioned indexes indicate that the weight loss caused by the operation has positive effects on respiratory measures, physical activity, and aerobic capacity. There have been concerns related to post-operative mental health indicators, which were associated with a slight increase in anxiety and depression, but did not have a significant effect on weight loss independently.

ePoster

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Investigation of factors affecting histological gastric wall thickness in Japanese patient with obesity

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Background:
Laparoscopic sleeve gastrectomy (LSG) is a standard procedure due to its low complication rates and favourable outcomes. We reported the gastric wall thickness with resected specimens using measurement device. However, optimal staplers for LSG were still controversial.

Objective:
In this study, we investigate the histological actual gastric full-layer thickness (FLT) and muscle layer thickness (MLT) measurements in formalin-fixed resected stomachs, and factors affecting these thicknesses were also examined.

Materials and Methods:
Between February 2020 and January 2024, we performed LSG in 46 patients with an average age, body weight, and body mass index of 44 years, 102 kg, and 38 kg/m^2, respectively. We measured the histological full layer thickness (FLT) and muscle layer thickness (MLT) at the antrum, body, and fornix using resected specimen fixed with formalin. And we investigated the factors related to the gastric wall thickness (FLT and MLT).

Results:
The 46 patients consisted of 15 males and 31 females with a mean age of 44 years. Preoperative weight and BMI were 102 kg and 38 kg/m2, respectively, and obesity-related comorbidity were diabetes mellitus in 20 (44%), hypertension in 27 (59%), fatty liver in 24 (52%), obstructive sleep apnea syndrome (OSAS) in 23 (50%), dyslipidemia in 30 (65%), liver dysfunction in 17 (37%), and hyperuricemia in 11 (24%). The FLT and MLT in the antrum, body, and fornix were 2899 µm, 1188µm, 2559µm, 947µm, and 2279µm, 802µm, respectively. Spearman's rank correlation coefficient tests showed no factors affecting thickness in the gastric body and fornix, but in the antrum, the presence or absence of OSAS affected FLT, and preoperative BMI and presence or absence of dyslipidemia affected MLT.

Conclusion:
Gastric thickness of antrum is influenced by the presence or absence of OSAS, preoperative BMI and dyslipidemia.

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Is bedside stapling in bariatric surgery economically viable?

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Background:
Early evidence has analyzed the clinical benefits of bedside stapling for bariatric procedures – the use of endoscopic linear staplers during robotic-assisted bariatric surgeries – but there is little evidence on the cost impact of choice among stapling products.

Objectives:
This study analyzes the economic viability of utilizing bedside stapling compared to robotic stapling for sleeve gastrectomy (SG) with as well as without staple-line reinforcement (SLR), and Roux-en-Y gastric bypass (RYGB) procedures.

Methods:
We developed a calculation framework to analyze direct stapling costs utilized in robotic-assisted surgeries accurately across manufacturers both procedurally and annually. Inputs include a range of stapling reloads and handles, factoring in the number of uses and units of measure to account for reusable and disposable products. We estimated the number of reloads and handles from literature and industry collected data, and hospital cost per product was based on 2022-2023 average sales price (ASP) data in USD from the IQVIA database. Annual estimations were based on 200 procedures.

Results:
Costs associated with bedside stapling were lower than costs for robotic stapling among procedures analyzed: $247 (SG), $203 (SG with SLR) and $241 (RGYB). The model demonstrated that a bedside stapling approach reduced costs by 14.63% in SG, 8.07% in SG with SLR, and 12.08% in RGYB compared to robotic stapling. Assuming 200 cases performed each year, bedside stapling for bariatric surgery could save hospitals an average of $46,019.

Conclusion:
Bedside stapling could prove to be a more economically viable in bariatric surgery compared to robotic stapling due to lower cost stapler handles and reloads. Limitations include assistant firing bedside stapler training, availability and comfort level. Hospitals and physicians should consider the clinical outcomes and costs of each approach as they make decisions and expand robotic-assisted surgery in bariatric procedures when clinically indicated and accessible.

ePoster

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Is the result of bariatric surgery different in twins?

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TUMS

Aim:
The main etiology of severe obesity is lack of hormonal balance due to inappropriate life style.

There are few genetic effect on obesity as well. The aim of this study is to show the result of bariatric surgery on twins and compare any difference in result of weight loss in their special groups.

Method:
All of twins during the experience of the author (2000 up to now) included in this study. Monozygotic or dizygotic, simultaneous operation or not, kind of their life style, primary BMI and result of the operation after 2 years measured in each twins.

Result:
7 twins included in this study during 24 years: monozygotic 4 (F/M:3/1) (LGP 2, SG 1, OAGB 1), dizygotic 3 (F/M:2/1) (LGP 2, OAGB 1). Mean age was 22 (31 to 14) and mean BMI was 43 (51 to 35). 2 cases of monozygotic and one case of dizygotic had the same BMI. These 3 cases lived together. 4 cases with different BMI, which 3 of them lived in different cities. 2 cases did operation at the same day, 3 with 6 months' difference and 2 cases after 2 years. Weight loss after 6, 12 and 24 months between twins was the same in monozygotic at the same time of operation (EWL: 61% after 2 years). Other cases had weight loss independently.

Conclusion:
Monozygotic twins have more tendency to get the same response to bariatric operation.

ePoster

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Laparoscopic reversal of roux-en-y gastric bypass for refractory hypoglycemia: a case of Sarr procedure

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Background:
Roux-en-Y gastric bypass (RYGB) is recognized as one of the most commonly performed bariatric surgeries worldwide, known for its safety and excellent long-term outcomes. Postoperative hypoglycemia is a very rare complication that can occur after RYGB, and if unresponsive to conservative treatment, surgical intervention may be necessary. However, information regarding the optimal procedure for RYGB reversal is still lacking. We aim to report a case of treatment with optimal clinical response through surgery in a patient with refractory hypoglycemia following obesity surgery.

Materials and Method:
The patient is a 41-year-old female who underwent RYGB two years ago due to obesity and uncontrolled diabetes. One year post-surgery, she experienced hypoglycemic symptoms with low blood glucose levels ranging from 30 to 50 mg/dl, and with no response to conservative treatment.

Results:
We performed laparoscopically single anastomosis reversal of RYGB, also known as the 'Sarr procedure'. Roux limb is divided 100 cm from gastro-jejunal anastomosis and brought up to gastric remnant without tension. After adequate dissection of great curvature of gastric remnant, a side-to-side anastomosis of the distal end of divided roux limb and gastric remnant is performed using linear stapler. After the surgery, the patient maintained stable blood glucose levels, and symptoms of hypoglycemia also improved.

Conclusion:
Laparoscopic single anastomosis reversal of RYGB (Sarr Procedure) is a safe and a feasible alternative surgical method to treat refractory hypoglycemia following bariatric surgery.

ePoster

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Laparoscopic Silastic Ring One Anastomosis Gastric Bypass (SR-OAGB): 15-17 year results from a single centre

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Background:
Although controversy surrounded the initial introduction of the one anastomosis gastric bypass (OAGB), its popularity has continued to grow steadily over time. The SR-OAGB involves placement of a silastic ring (SR) enhancing weight loss and minimizing weight gain. This technique has previously been shown to be an effective and safe bariatric operation[1]. However, there remains a paucity of evidence evaluating efficacy and safety and patient satisfaction in the longer term.

Objectives:
This study reports 15-17 year long-term results from a cohort of 156 patients undergoing a SR-OAGB in a single centre.

Methods:
SR-OAGB was performed with a long lesser curve pouch calibrated over a 32Fr bougie. A handsewn gastroenterostomy was created 150-200cm distal to the DJ flexure, a 6.5-7.5cm silastic ring was then secured around the middle of the pouch. Long-term outcomes (15-17 year follow-up) were retrospectively analysed in a single surgeon's consecutive series of patients undergoing surgery between August 2005 and August 2008. A combination of follow-up questionnaires, phone calls and electronic hospital records were used to assess weight loss, comorbidity resolution, patient satisfaction and complications. Comparison between 5,10 and 15 year patient outcomes were also performed.

Results:
Preliminary results; 156 patients underwent surgery during the study period. 94/156 (60%) responded to our survey with 10 recorded deaths. Average BMI was 46, with a mean percentage excess weight loss of 86.5% at 15 years. Average satisfaction was 88/100, with 45% of patients taking anti-reflux medication and 9% requiring conversion surgery to Roux- en-Y gastric bypass. 67% of patients were taking regular multivitamins, 85% had mild intolerance to meat or solids and 18% were still on some form of cardiovascular medication (48% pre op). Complications specifically related to the silastic ring, and those requiring surgical intervention were also evaluated. Social, emotional, and physical quality of life were also assessed with particular analysis of dumping syndrome symptoms.

Conclusion:
SR-OAGB appears to be a safe and effective operation for patients with severe obesity. To our knowledge, the outcomes reported in this study represents the longest reported follow-up of OAGB patients.

ePoster

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Laparoscopic sleeve gastrectomy for adolescents under 19 years with severe obesity

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Background:
Metabolic bariatric surgery in adolescents is an evolving field and data is limited. Surgery in this age group has special safety, social, and ethical considerations.

Objectives:
The aim of this study was to review the weight loss outcomes, complications and follow-up rates of a cohort of adolescents who underwent Laparoscopic Sleeve Gastrectomy (LSG) by a single surgeon in a large volume clinic with an established adolescent multidisciplinary team program receiving patients from across Australia and New Zealand.

Methods:
A prospective bariatric database was retrospectively analysed to review the adolescents aged 13-19 who underwent a primary LSG from December 2011 to June 2023. Patients who were a minimum of 6 months post-surgery were included.

Results:
64 patients aged 13-19 years old underwent primary LSG. Median pre-operative weight and BMI was 123 kg and 42.1 kg/m^2. At 3 months, 6 months, 12 months and 2 years after LSG, median BMI decreased to 33.6, 30.6, 27.5 and 28.1 kg/m^2, respectively ($p<0.001$). There was a mean percent total body weight loss of 32% at 2 years. Follow-up rates progressively decreased at each time point and was 41.8% at 2 years. There was no mortality and 1 anastomotic leak.

Conclusion:
This data shows preliminary support for primary LSG as a low-risk procedure for adolescent patients with obesity. The bariatric outcomes were similar to those observed in adult cohorts. The poor follow-up is a concerning feature because of the life-long dietary changes, nutritional supplementation and monitoring required. It is important for these patients to have extensive pre-operative and post-operative multidisciplinary team assessment. Our data suggests that LSG is a safe and efficacious option for the treatment of adolescent obesity in the short to medium term. Long-term data with better follow-up is required.

ePoster

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Laparoscopic sleeve gastrectomy in a patient with factor VII deficiency: A case report

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Congenital factor VII (FVII) deficiency is a rare coagulation disorder that can cause excessive bleeding during and after surgery. Although sleeve gastrectomy is the most common metabolic bariatric surgery (MBS), it is seldom performed in patients with congenital coagulation disorders. This report describes the approach to management before, during, and after laparoscopic sleeve gastrectomy used in a patient with factor VII (FVII) deficiency.

Case presentation:
We report a 57-year-old woman with Obesity II (BMI: 37.9) who was diagnosed with congenital FVII deficiency. She was scheduled for a laparoscopic sleeve gastrectomy. For coagulation management, 2 units of fresh frozen plasma (FFP) were transfused before starting surgery, and octaplex 1000 IU was given during the surgery. The surgery was uneventfully completed. Postoperatively, enoxaparin was given to the patient for 14 days. No bleeding or thromboembolism was observed during or after the surgery.

Conclusion:
We reported the successful management of a patient with congenital FVII deficiency undergoing laparoscopic sleeve gastrectomy without intra-operative or post-operative bleeding or thromboembolism.

ePoster

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Laparoscopic sleeve gastrectomy with omission of staple line reinforcement & omentopexy. Short term results

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Background:
A number of operative technical modifications have been suggested for laparoscopic sleeve gastrectomy in order to optimise postoperative weight loss and foregut function. These include staple line reinforcement and omentopexy.

Objectives:
To evaluate weight loss and complication rates in patients undergoing laparoscopic sleeve gastrectomy using non-buttressed staples without omentopexy.

Methods:
Laparoscopic sleeve gastrectomy was performed using a size 40 Bougie forcalibration. Unbuttressed staples were utilised. No omentopexy was performed. Hiatal repairs were performed in the presence of a hiatal defect.
Patient anthropometric data, comorbidity data and acid suppression medication use were recorded prospectively. At twelve month follow-up weight loss, readmission to hospital and acid suppression medication use was recorded.

Results:
Over a four month period, 58 consecutive patients underwent laparoscopic sleeve gastrectomy. The median age was 42 years (range 20-65), and 95% of the cohort were females. The median weight was 114.5kg (range 87-165kg), and the median BMI was 40 (range 35-55). Twelve month follow-up was available for 51 patients (88%). No patients required hospital readmission. One patient who required regular acid suppression medication pre-operatively continued post-operatively, while seven other patients have commenced acid suppression medication for reflux symptoms post-operatively.
Nine patients (18%) required an anterior hiatal repair. In this series, no phrenopexy was performed.

Conclusion:
Omission of staple line buttressing and routine omentopexy resulted in acceptable rates of staple line leak and gastric torsion. A significant number of patients, however, remained dependent on acid suppression post-operatively.

ePoster

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Laparoscopic sleeve gastrectomy(LSG) vs GLP-1 receptor agonists(GLP-1RAs)in morbidly obese patients with insulin resistance:A prospective cohort study

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Background:
Different treatments are available for obesity management, including lifestyle interventions, pharmacological therapies, endoscopic interventions, and surgeries. Limited evidence is available on the weight loss effect and improvement of insulin resistance in LSG or GLP-1 RAs.

Objective:
Compare the weight loss effect and metabolic changes of LSG and GLP-1 RAs in morbidly obese patients with insulin resistance.

Methods:
The enrolled patients were included in the LSG group or the simethicone group, excluding those with less than 6 months of follow-up. Primary endpoints included percent excess weight loss (% EWL) and HOMA-IR changes at 6 months.

Results:
80 patients were enrolled, 9 were excluded, and the final 71 obese patients were entered into the study and analysed group (N=360),GLP-1 RAs group (weekly subcutaneous injections of simethicone) (N=35). Patients undergoing LSG experienced a greater % EWL than who received simethicone at 6 month (88.22±22.22% vs 69.23±23.13%, p = 0.001). The reduction of HOMA-IR in the LSG group was superior to that in the simethicone group (5.50±4.36 vs 3.11±2.30,p = 0.006). The incidence of acid reflux (41.7% vs 8.6%,χ^2=10.271,p=0.001), dizziness (50.0% vs 20.2%,χ^2=7.001,p=0.008), and alopecia (50.0% vs 22.9%,χ^2=5.633,p=0.018) in the LSG group was significantly higher than that in the GLP-1 RAs group. There were no deaths or life-threatening complications.

Conclusion:
In morbidly obese patients with insulin resistance, both the weight loss effect and the improvement in insulin resistances is more effective than GLP-1 RAs.

ePoster

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Laparoscopic total gastrectomy with isoperistaltic jejunum-later-cut overlap method reconstruction for gastric cancer in a patient with severe obesity

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Background:
Obesity is known to be associated with an increased risk of gastric cancer. Management of gastric cancer in patients with severe obesity requires a multi-disciplinary team approach. Totally laparoscopic total gastrectomy is an important skill in the armamentarium of metabolic and bariatric surgeons.

Clinical case:
A 50-year gentleman with a BMI of 40.2 kg/m^2 was worked up for MBS. He had Type 2 diabetes mellitus and non-alcoholic-steatohepatitis (CAP: 375 dB/m; LSM: 17kPa) as underlying comorbidities. On preoperative upper gastrointestinal endoscopy (UGIE) note was made of a 4x3 cm ulcer along the lesser curve close to the gastroesophageal junction. Biopsy from the ulcer revealed moderately differentiated adenocarcinoma. After discussion in multi-disciplinary tumor board, he was started on neo-adjuvant FLOT (Fluorouracil, Leucovorin, Oxaliplatin and Docetaxel) chemotherapy. After 4 cycles of FLOT chemotherapy he underwent laparoscopic D2 total gastrectomy with isoperistaltic jejunum-later-cut overlap method (IJOM) reconstruction. The procedure involved total gastrectomy with removal of lymph node stations 1 to 12a and digestive tract reconstruction using IJOM. The specimen was retrieved through a pfannenstiel incision. Patient had an uneventful recovery. He was started orally on post-operative day(POD) 3 after confirming anastomotic integrity on oral contrast study. Abdominal drains were removed and he was discharged home on POD 6. At 6-months of follow-up, patient has lost 25 kg weight (TWL% 22.7%; EWL% 37.2%). He is tolerating normal oral diet and has no clinico-radiologic evidence of recurrence.

Conclusion
This case video demonstrates the technique of laparoscopic total gastrectomy and IJOM reconstruction in a patient with severe obesity. IJOM is an easy and reproducible technique of digestive tract reconstruction after laparoscopic total gastrectomy. This case highlights the importance of a multidisciplinary team approach and routine pre-operative UGIE in the management of patients with obesity.

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Laparoscopic transgastric resection of a gastric submucosal tumor near esophagogastric junction with concomitant sleeve gastrectomy: video case report

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Background :
Over the past two decades, there has been a significant rise in bariatric surgery. As a consequence, the prevalence of patients with obesity and a combined gastric pathology such as a submucosal tumor (SMT) requiring excision at the same time as bariatric surgery is higher but the management remains controversial. We report the safety and effectiveness of a simultaneous laparoscopic transgastric resection of a large gastric SMT near the esophagogastric junction (EGJ) with sleeve gastrectomy (SG).

Methods:
We present a video report of a 52-year-old male (BMI = 49 kg/m2) referred for bariatric surgery, who was found to have a large SMT 2 cm from the EGJ on the lesser curvature on previous gastroscopy.

Results:
Using five ports placed for laparoscopic SG, the gastric SMT was localized through an anterior gastrotomy and fully excised using a linear stapler and the gastrotomy site was closed. SG was then performed over a 54Fr bougie, including the gastrotomy suture closure.

Conclusions:
Several factors play important roles in deciding the best surgical approach for patients who are candidates for bariatric surgery and have concomitant gastric SMTs. This video report describes a safe and effective technique of simultaneous transgastric resection of a lesser curvature gastric SMT near the EGJ in a patient undergoing SG.

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Long-term result after sleeve gastrectomy according to morphology

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Background:
Various shapes of the remnant stomach have been identified on routine upper gastrointestinal series after laparoscopic sleeve gastrectomy. These findings might provide useful information beyond the presence of complications, such as leaks and obstructions. The aim of this study is to stratify the morphological classification of gastric sleeves based on water-soluble contrast upper gastrointestinal series, and to determine the clinical implications.

Study Design:
Forty-six patients affected by severe obesity underwent laparoscopic sleeve gastrectomy and had routine upper gastrointestinal on postoperative day 1. Images were reviewed by 1 radiologist and 2 experienced surgeons who were blinded to outcomes, and sleeve shape was classified as upper pouch, lower pouch, tubular, or dumbbell. Clinical outcomes including weight loss, satiety control, and reflux symptoms were recorded. Comparisons were determined by chi-square test and t-test.

Results:
Mean age was 42 ± 11 years and mean BMI was 45.1 ± 7 kg/m2. Mean follow period was 18 months. Sleeve shapes were tubular in 30%, dumbbell in 15%, lower pouch in 41%, and upper pouch in 16%. Mean %TBWL was 20.4%. Excess body weight loss was not associated with sleeve shape. Upper pouch and dumbbell shape were associated with greater severity of reflux symptoms (p= 0.05).

Conclusion:
This study proposed a uniform system for classifying the shape of gastric sleeves in radiographic images. The configuration of the sleeve does not directly relate to weight loss outcomes. However, aggressive resection of the gastric fundus tends to lead to more severe acid reflux symptoms. Proper removal of the gastric fundus could prevent these adverse effects.

ePoster

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Low molecular weight heparin for venous thromboembolism prevention in patients undergoing bariatric surgery: a systematic review and meta-analysis

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Background:
Perioperative anticoagulation is critical in patients with obesity undergoing bariatric surgery, but better evidence is needed to support how large a measure of low molecular heparin anticoagulation should be used to ensure patient safety and prevent complications.

Objectives:
Low molecular weight heparin (LMWH) is effective in preventing venous thromboembolism (VTE) in individuals with obesity undergoing bariatric surgery, but the ideal preventive dosage has not been clearly established.

Methods:
A comprehensive search was conducted across four databases (PubMed, Embase, Cochrane Library, and Web of Science) to compare different doses of LMWH used for VTE prophylaxis during the perioperative period of bariatric surgery in randomized controlled trials (RCTs) and cohort studies conducted in any language. The primary outcomes of our study included the incidence of VTE, bleeding events, and the proportion of patients achieving the target anti-factor Xa (AFXa) levels associated with LMWH prophylaxis at different doses. We conducted a meta-analysis using a random-effects model and the inverse variance method, reporting results as odds ratios (ORs) with corresponding 95% confidence intervals (CIs).

Results:
A total of 16 relevant studies were included for analysis, consisting of three RCTs and 13 cohort studies. The meta-analysis revealed that a dosage of 40 mg given twice daily was associated with a lower risk of VTE compared to a dosage of 30 mg given twice daily (OR: 0.09, 95% CI: 0.02-0.40). However, no significant differences were observed in AFXa levels among different dosage groups. Adverse event analysis indicated an increased risk of bleeding with a dosage of 40 mg given twice daily compared to 20 mg given twice daily (OR: 2.11, 95% CI: 1.07-4.17). Dose-response meta-analysis revealed no significant non-linear relationship between LMWH dosage and the risks of VTE and bleeding, but a turning point was observed at a dosage of 40 mg given twice daily for both outcomes.

Conclusions:
Patients undergoing bariatric surgery with twice-daily administration of 40 mg LMWH were associated with a reduced risk of VTE but increased risk of bleeding.Future research should focus on optimizing the dosage of LMWH to find a balance between reducing VTE risk and minimizing the risk of bleeding.

ePoster

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Management of Jejuno-jejunal anastomotic intraluminal staple line bleed causing obstruction

Manish Khaitan, Riddhish Gadani

This is a video case report in which we managed jejuno-jejunal staple line bleed which was causing obstruction at JJ leading to remnant stomach and roux limb obstruction.

ePoster

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Management of vertical banded gastroplasty complications

Thair Aldujaili

Background:
Initial vertical banded gastroplasty (VBG) was performed in 1971 by Mason and Printen. The procedure was based solely upon restriction. The procedure was performed in significant numbers for people with obesity till 1990's. Initial optimal clinical response with a change in weight was like gastric banding (LAGB) but inferior to gastric bypass (LRGYB). Maladaptive eating resulted in weight regain, as well as other problems associated with the procedure such as pouch dilation, band erosions, pouch outlet stenosis, pouch -stomach fistula and reflux.

Objective:
Most of VBG were performed via laparotomy with resultant extensive gastric adhesions to the liver, omentum and abdominal wall.

Conversion of complicated VBG achieved by either operative conversion to Laparoscopic sleeve gastrectomy, Gastric bypass, Duodenal switch or revision entails removal of the band or bands along with division of the staples line, which proved to be lengthy and associated with high complication rate, or endoscopic revision by balloon dilatation, stenting, stricturoplasty or creation of gastro-gastric fistula, with limited number published and non-consistence success.

Method:
Novel technique of endoscopic guided laparoscopic division of the stapled common pouch wall, the technique involves minimal dissection and mobilization of the stomach, insertion of laparoscopic port into the stomach which is used to introduce and fire 2-3 linear staplers to divide the old staple line, at the same time dividing the encircling perigastric bands, positioning of the stapler is performed under direct vision via a gastroscope.

Results:
The procedure proved to be simple, rapid, safe revision of the VBG with minimal complication and high optimal clinical response rate for treatment of stenosed pouch outlet, malnutrition and severe reflux/Regurgitation.

Conclusion:
This technique is reserved for those who suffers from severe pouch outlet stenosis, with significant weight loss, malnutrition and in ability to eat, bad reflux, who do not want to convert to another weight limiting procedure.

ePoster

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Managing recurrent weight gain with endoscopic gastrojejunal anastomosis resizing after bariatric-metabolic surgery

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Digestive Diseases Queensland

Background:
Treatment options to address recurrent weight gain after bariatric-metabolic surgery include further surgery, medical management and endoscopic procedures. Endoscopic argon plasma coagulation (APC) and overstitch procedures reduce the diameter of the gastrojejunal anastomosis and restore early satiety.

Objectives:
To examine weight and safety outcomes of endoscopic procedures performed to as an alternative to further surgical intervention in people who have previously undergone gastric bypass surgery at a tertiary public hospital.

Methods:
This retrospective cohort study included adults post Roux-en-Y gastric bypass or single anastomosis gastric bypass bariatric-metabolic surgery who underwent APC +/- overstitch procedures between November 2018 and July 2023. Weight change at 6 and 12 months, number of procedures performed, and safety outcomes were collected.

Results:
30 participants were included who underwent a total of 58 procedures. Mean weight was 107.29kg (SD 27.14kg) and mean BMI 39.5 kg/m^2 (SD 9.13 kg/m^2). 45 were APC only, 13 were APC plus overstitch, with 5/13 also including gastric pouch revision. Mean weight change at 6 months was -9.98kg (SD 8.68kg $p<0.05$; n=30) and -8.67kg at 12 months (SD 10.02kg $p>0.05$; n=22), using a mean of 1.76 TOR procedures per participant over 12 months. 6/30 were referred to a Dietitian for pre and/or post dietary education and monitoring. Complications included stricture requiring endoscopic dilatation (8/30 patients had 24 dilatations, with a mean of 3 dilatations required), reflux post procedure (5/30), unable to upgrade to normal texture (3/30), ongoing dumping syndrome (2/30) and 1/30 experienced significant fatigue due to inadequate nutrition.

Conclusion:
Endoscopic gastrojejunal anastomosis resizing procedures performed in a public hospital setting are an effective non-surgical treatment for recurrent weight gain after bariatric-metabolic surgery. Complications including stricture can be treated with optimal clinical response.

ePoster

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Managing sarcopenia following metabolic bariatric surgery: the safety of low-impact resistance training in the immediate postoperative period.

Ruben Schuringa, Alex Craven
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Background:
In the first month following metabolic bariatric surgery, patients can expect approximately half of their weight loss to consist of lean body mass. Weight loss during this period is primarily a result of a reduction in calorie intake, with reduced physical activity following surgery contributing secondarily. In states of sustained calorie deficit where weight loss occurs, sarcopenia can be minimised by increasing protein intake and providing muscle stimulus through resistance training. Current guidelines suggest that in the period immediately following metabolic bariatric surgery, patients maintain adequate protein intake but avoid or limit resistance training pending recovery from surgery.

Objectives:
This review aims to evaluate the level of evidence suggesting adverse outcomes associated with physical exercise in the immediate postoperative period following metabolic bariatric surgery.

Methods:
We systematically searched the literature for evidence suggesting a relationship between postoperative complications and the level of exercise completed in the immediate postoperative period following metabolic bariatric surgery.

Results:
Of the 39 included studies on postoperative exercise in this patient population, none suggested postoperative exercise as a risk factor for complications following metabolic bariatric surgery.

Conclusion:
Following metabolic bariatric surgery there may be substantial benefit to engaging in low-impact resistance training in addressing resultant sarcopenia. This review found no relationship between the level of postoperative exercise and the incidence of complications. Based on our analysis of the available literature, we suggest that low-impact resistance training is safe in the immediate postoperative period following metabolic bariatric surgery. Future clinical trials involving supervised low-impact resistance training can likely be performed safely and will provide evidence-based recommendations on postoperative resistance training in this patient population.

ePoster

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Metabolic bariatric surgery for a severely obese patient with Li-Fraumeni syndrome: a case report

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Background:
Although the risk of developing breast cancer is known to be high in female patients with obesity, metabolic bariatric surgery (MBS) reportedly can reduce that risk. Indeed, studies have reported that MBS reduces the risk of breast cancer among women with obesity (even for those with a BMI of 35 or more) to the same level of risk as those with a BMI of 25 or less.

Li-Fraumeni syndrome, an autosomal dominant genetic disorder caused by a p53 gene abnormality, causes various types of carcinogenesis from a young age. However, in recent years, with the improvement of diagnostic and therapeutic techniques, several examples of long-term survival have been reported.

However, there have been no reports of MBS being used for patients with obesity with Li-Fraumeni syndrome.

Objective:
MBS was used to treat a female patient with severe obesity with Li-Fraumeni syndrome. We report on this patient with a review of the literature.

Patient and Results:
A 31-year-old woman presented at our metabolic bariatric clinic with severe obesity associated with diabetes mellitus. Her BMI was 35.0 and her HbA1c was 8.5% at the initial visit. She had a history of Li-Fraumeni syndrome and had undergone resections for right adrenal tumor (at age 0), left foot lipoma (at age 14), right breast cancer (at age 24), and uterine fibroid (at age 26). The patient was treated by conservative weight loss for 1 year, but her improvement was limited. To improve her diabetes mellitus and reduce the carcinogenesis rate, she requested surgery. Considering the risk of gastric cancer, she underwent a laparoscopic sleeve gastrectomy. She was discharged from the hospital on the sixth postoperative day without any postoperative complications. Her postoperative course was good, with 27% postoperative weight loss at 6 months.

Conclusion:
We safely performed MBS on a young woman with severe obesity with Li-Fraumeni syndrome. Recently, even patients with Li-Fraumeni syndrome have been considered candidates for MBS because a long-term prognosis can be expected. We will continue to carefully monitor the patient's progress.

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Metabolic surgery in BMI above 60 in low volume centre (Mauritius)

Pravish Rai Sookha
Wellkin Hospital

Mauritius has a population of 1.2 million with almost 20% of adults affected by diabetes and 36% of adults being affected by obesity. Despite these figures Metabolic surgery is still with very low acceptance. During the last 5 years we have had approximately 50 cases of metabolic surgery per year. At least 25% of our patients are with BMI above 60.

Preparing very high BMI patients in low volume centres can be difficult, but it can be achieved with a very dedicated team, in our case lead by our bariatric surgeon. The team consist of Surgeon, Endocrinologist, Psychiatrist, Chest Physician, Cardiologist, Physician and Dietitian.

We propose Sleeve gastrectomy and RYGB mainly in our centre, although we do have a small cohort with OAGB.

Patients with hiatal hernias above 3cms, and those with Child B esophagitis or above are directed towards RYGB.

Patients with diabetes type II more than 5 years with aim of ameliorating DM also are also proposed RYGB

Advanced age > 60 years- Sleeve unless contraindicated

All other patients are proposed a sleeve gastrectomy first, with aim of having a second surgery if required after 2 years of the first one.

Results till now have been satisfactory. patients with RYGB have had a longer stay in hospital and longer operative time. Patients with sleeve gastrectomy from 2012-2019 - have had a conversion to RYGB in 25% of cases for mainly twi reason (to lose extra weight, or secondly denovo GERD)

ePoster

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Metabolic syndrome and coronary artery stenosis in bariatric surgery candidates

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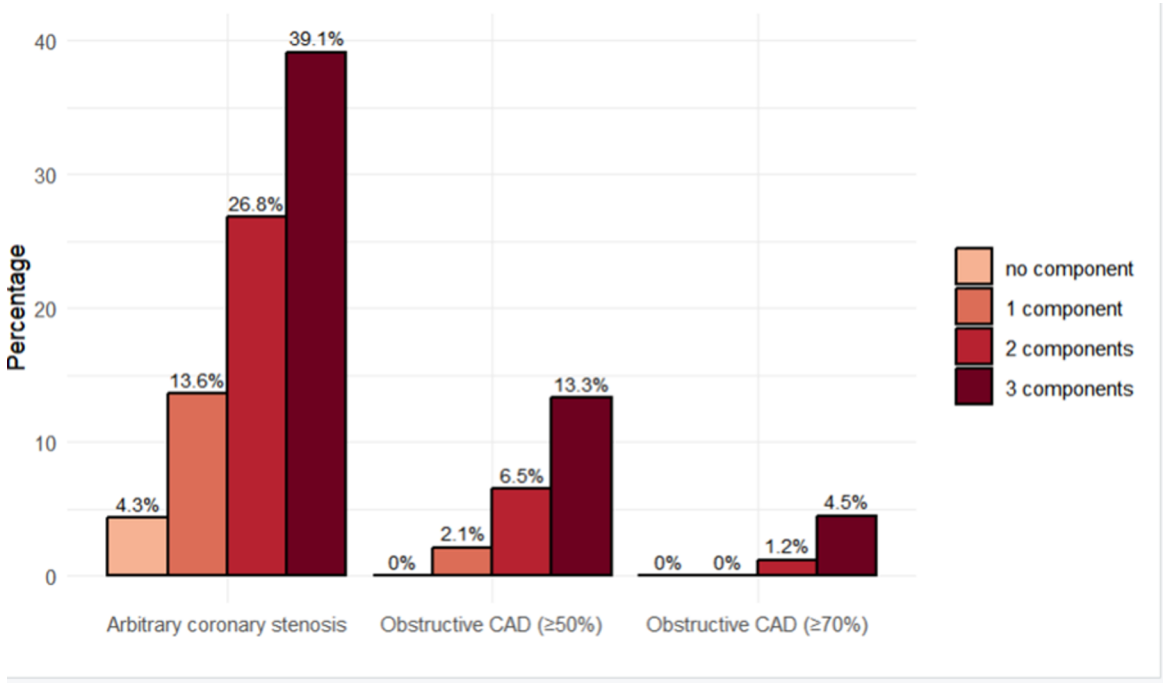
Background:
Obesity is known as a risk factor for coronary artery stenosis (CAS). However, current guidelines do not recommend routine coronary screening for bariatric surgery candidates, even though the majority of patients suffer from metabolic syndrome (MetS) that may increase the risk of CAS.

Objectives:
To investigate the true incidence of CAS in bariatric surgery candidates and the impact of different metabolic status on CAS in patients with obesity.

Methods:
All the bariatric surgery candidates at two Chinese tertiary hospitals received coronary CTA or coronary angiography during 2017-2022. Patients were categorized as metabolically unhealthy obesity (MUO) and metabolically healthy obesity (MHO) based on the presence or absence of MetS. Obstructive CAS was defined as coronary stenosis≥50%, and significant obstructive CAS was defined as coronary stenosis≥70%. Logistic regression was performed to analyze the association between metabolic status and CAS. MetS components were divided into four categories for analysis: none-component, single-component (lipid, blood pressure [BP], or glucose), double-component (lipid+BP, lipid+glucose, or glucose+BP), and triple-component (lipid+BP+glucose).

Results:
A total of 1446 patients were included in the study, of which 1314 patients were categorized as MUO and 135 patients as MHO. The overall incidence of varying degrees of CAS was 31.8%, with a 9.6% incidence of obstructive CAS and a 2.8% incidence of significantly obstructive CAS. Notably, 10.5% of MUO patients had obstructive CAS, significantly higher than MHO patients, only 1 (0.8%) of whom had obstructive CAS (P<0.001). The four MetS categories showed notable variations in the risk of obstructive CAS (0.0% in none-component, 2.1% in single-component, 6.5% in double-component, and 13.3% in triple-component; P<0.001). After adjusting for covariates, patients with triple-component exhibited a significantly elevated risk of CAS in comparison to those with none and single-component (OR 3.93, 95%CI 1.19-12.93, P=0.025). Likewise, each increase in the number of components correlated with a 1.37-fold higher risk of CAS.

Conclusion:
This study reported the largest number of coronary screening results of bariatric surgery candidates. CAS is highly prevalent in patients with obesity, especially in MUO patients. Increased MetS components will significantly elevate the risk of CAS.


Percentage
40
30
20
10
0
39.1%
26.8%
13.6%
4.3%
13.3%
6.5%
2.1%
0%
4.5%
1.2%
0%
0%
Arbitrary coronary stenosis
Obstructive CAD (≥50%)
Obstructive CAD (≥70%)
no component
1 component
2 components
3 components

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Micronutrient deficiencies in patients with severe obesity before and after metabolic bariatric surgery in NUH Singapore

Said Bani Araba
MOH

Background:
Bariatric surgery is recognized as the most effective treatment for severe obesity. Despite the benefits achieved with these operations, deficiencies of vitamins and other micronutrients are common

Aim:
To estimate the prevalence of micronutrient deficiencies before and after bariatric surgery.

Methods:
Prospectively maintained database of our university metabolic bariatric center was searched to assess the rate of preoperative and postoperative micronutrients deficiency in patients undergoing MBS over 5 year period.

Results:
In total, 468 patients were included, 275 cases of Sleeve Gastrectomy (SG), 196 Gastric Bypass (GB; 143 One Anastomosis and 50 Roux-en-Y). Preoperative vitamin D deficiency and insufficiency were respectively found in 76% and 18% in SG, 78% and 16% in GB patient with no significant difference between SG and GB. After six months, 51% of sleeve gastrectomy patient had normalization of their vitamin D,compare with 28% of gastric bypass. There was no significant difference between SG and GB in Vitamin B 12, iron, and Phosphate in both pre and post operative level.

Conclusions:
Post bariatric surgery patients are at increased risk for nutritional deficiencies which may result in serious complications if they are not recognized promptly. Regular follow-up with correct supplementation should be recommended for all patients undergoing MBS.

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Micronutrient status in patients following bariatric surgery, an experience from a developing country

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Background/intro:
The scourge of obesity has plagued the developing world, culminating in an exponential rise in related illnesses including diabetes, hypertension, and cardiovascular disease. Bariatric Surgery is the most effective way to achieve substantial weight loss for individuals with obesity, but its impact on long term micronutrient status needs to be studied in the population of the developing world, as access to a healthy diet remains abysmal.

Objective:
To assess micronutrient status in patients who underwent bariatric surgery and compare the difference in postoperative nutritional complications between Sleeve Gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB).

Methods:
This single-center cross-sectional study included 60 patients who underwent bariatric surgery: 30 each for SG and RYGB at Khyber Teaching Hospital, Peshawar. All consenting patients who underwent bariatric surgery and were at a minimum of 6 months post-op were included in this study, whereas patients suffering from hypoabsorptive disease were excluded.

Results:
The mean age of the patients was 40.95 ± 8.34 with a higher proportion of females (68.3%) as compared to males (31.7%). Most of the patients (73.3%) had a monthly income between 50,000 and 100,000 Rs, only 21.7% of the patients had received higher education and 77.3% were married. There were no significant differences in demographics between the two procedures.

The incidence of total micronutrient deficiencies increased following bariatric surgery (N=62 preoperatively vs N=88 postoperatively). The mean Excess Weight Loss for SG was 28.42 ± 12.43% and 39.90 ± 10.82% for RYGB (P=<0.001) and it was associated with vitamin D deficiency (P=0.031).

Conclusion:
This study demonstrates the grave issue of micronutrient deficiencies after bariatric surgeries and the need to tackle them accordingly with appropriate supplements. The high incidence of preoperative deficiencies augments the need to screen bariatric surgery candidates for micronutrient deficiencies.

Keywords: Obesity, Bariatric surgery, Roux-en-Y gastric bypass, Sleeve gastrectomy, Nutritional deficiency, Micronutrients.

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Minimally invasive common bile duct stone management in gastric bypass patients: laparoscopic common bile duct exploration with disposable bronchoscop

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Background:
Patients who have undergone bariatric surgery are prone to cholelithiasis. The anatomical modifications caused by gastric bypass surgery make endoscopic methods, such as ERCP, ineffective for managing common bile duct stones. In addition, methods such as laparoscopic bile duct exploration is impractical in many healthcare facilities, due to the absence of choledoscopes mainly because of to their high costs. This study assesses the feasibility of laparoscopic exploration of the common bile duct using a disposable bronchoscope in these individuals.

Method:
The study involved 32 participants who had undergone gastric bypass surgery, either one-anastomosis gastric bypass (OAGB) or Roux-en-Y gastric bypass (RYGB). These participants presented with both bile duct stones and bile ducts exceeding 8 mm in diameter, diagnosed through either MRCP or cholangiography conducted during the surgery. Stone extraction was carried out through either choledotomy or transcystic routes using a disposable bronchoscope and endoscopic baskets.

Results:
The patients' ages ranged from 27 to 66 years, with a mean bile duct diameter of 11.6 mm (s.d 3.1 mm). The majority of patients (27) presented with solitary stones, while five had multiple calculi. A remarkable 100% stone clearance rate was achieved for all patients. None of the patients required conversion to open surgery. No T-tubes were placed, and no instances of lumen narrowing occurred in any patient. One patient developed biloma and intra-abdominal abscesses, which were successfully treated with a percutaneous drain over the course of a week. No mortalities were recorded during the course of this study.

Conclusion:
Our study results demonstrate that laparoscopic bile duct exploration is both feasible and safe in patients who have undergone gastric bypass surgery. The utilization of a disposable bronchoscope emerges as a practical and cost-effective alternative to a choledochoscope in this procedure.

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Modified gastric sleeve technique makes it more cost effective and enhances recovery: How I do It

Arun Dhir, Gary Foo
Body Genesis Institute

Background:
Data from bariatric surgery registries across the globe, suggest that Lap Sleeve Gastrectomy (LSG) demand and the numbers performed thus far have steadily been increasing over the years. With increasing numbers comes a demand to explore enhanced recovery protocols and the drive to contain costs by reducing consumables that do not necessarily impact outcomes.

Methods:
We present a series of 46 primary gastric sleeve cases that were considered to be suitable for the Ambulatory Gastric Sleeve pathway. In this video presentation, we highlight the intraoperative modifications which we found to be a significant factor contributing to early recovery of LSG patients besides reducing the costs of consumables used.

How I do it video:

4 steps of modified LSG
1. Eliminate the need to use Nathanson Liver retractor
2. Use of a Crural stitch as a liver retractor
3. TAPP block with 80mls of diluted 0.75 Naropin
4. Eliminate use of scissors, diathermy hook and suction irrigation (disposable/reusable)

Results:
Our results using the modified LSG technique show that the sleeve can be performed safely and effectively while allowing a reduction in costs associated with the procedure and an early discharge.

Conclusion:
With the rising demand for bariatric surgery and the popularity of LSG, there are several benefits of exploring efficient and more cost-effective ways of doing the procedure. Our technique highlights the potential of achieving this in an effective and replicable manner.

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Multiple single nucleotide polymorphisms predict mid- and long-term weight loss after laparoscopic sleeve gastrectomy in Chinese individuals

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Background:
Single nucleotide polymorphisms (SNPs) associated with obesity are better predictors of weight loss after laparoscopic Roux-en-Y gastric bypass (LRYGB); however, the use of multiple SNPs to predict intermediate- and long-term weight loss after laparoscopic gastric sleeve resection has not been well-studied.

Objectives:
To predict mid- and long-term weight loss outcomes after laparoscopic sleeve gastrectomy using obesity-related SNP in Chinese patients with BMI ≥ 32.5 kg/m^2.

Methods:
We detected 29 SNPs and then used binary logistic regression to screen SNP and clinical variables with predictive value. Subject work characteristics (ROC) curves for SNPs and their combinations were plotted and area under the ROC curve (AUC) was compared, and internal validation tests were performed. According to the latest guidelines, optimal clinical response is defined as TWL% >20.

Results:
Firstly, rs696217, rs7566605, rs2241766 and rs894160 were constructed as genetic risk scores (GRS), respectively, and the preoperative combined snp was constructed as cumulative genetic risk scores (GRSs). rs696217's ROC curve for the GRS had an AUC value of 0.637 (95%CI: 0.521~0.742) with a sensitivity of 71.64% and a specificity of 58.33%; the AUC of the ROC curve for rs7566605 was 0.578 (95% CI: 0.462~0.689) with a sensitivity of 83.58% and a specificity of 41.67%; the AUC of the ROC curve for rs2241766 and rs894160 were 0.617 (95% CI: 0.501~0.724) with a sensitivity of 49.25% and a specificity of 66.67% and 0.649 (95% CI: 0.534~0.753) with a sensitivity of 68.66% and a specificity of 66.67%. The AUC of the ROC curve of the prediction model built by combining the four SNP indicators was 0.845 (95% CI: 0.0.746~0.917, P＜0.05), with a sensitivity of 59.70% and a specificity of 100%. The AUC of the GRSs was significantly larger than that of the GRS (P＜0.05).

Conclusion :
In Chinese patients with BMI ≥32.5 kg/m^2, GRS and GRSs could predict optimal weight loss. However, GRSs was superior to GRS.

ePoster

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Navigating sleeve gastrectomy leaks with stent intervention: strategies for prevention, detection, and management

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Mohak Bariatrics and Robotics

Background:
Sleeve gastrectomy, a widely performed bariatric procedure, presents challenges in managing leaks, which can lead to serious complications. Stent intervention has emerged as a promising approach in addressing sleeve gastrectomy leaks, yet comprehensive guidelines are lacking.

Methodology:
This video abstract focuses how to place a stent in sleeve leaks and their management

It reviews pertinent literature to elucidate the efficacy of stent placement in preventing leaks, highlighting key considerations in patient selection and procedural techniques. Additionally, the abstract explores the evolving landscape of stent management strategies, including duration of stent placement, adjunctive therapies, and complications.

Conclusion:
Sleeve gastrectomy leaks can manage successfully.

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Neurological complications post laparoscopic sleeve gastrectomy: A challenging case report from Oman

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MOH, Sultanate of Oman

Background:
Laparoscopic sleeve gastrectomy (LSG) is a popular weight loss surgery, also known as Metabolic Bariatric Surgery (MBS). Compared to other types of bariatric surgery, LSG has a lower incidence rate of postoperative complications, at 2.12%. However, some neurological complications have been reported after LSG, including Polyneuropathy, Mononeuropathy, Guillain-Barre syndrome, Wernicke's encephalopathy, Ataxia, and myopathy. A recent study has shown that bariatric surgery appears to reduce the risk of ischemic stroke at short- and long-term intervals. However, this case report describes a challenging case in which a patient developed a right-sided brain stroke and brain abscess following LSG.

Case Presentation:
A 32-year-old female with no previous medical conditions was diagnosed with obesity class III (BMI 40 Kg/m2). She underwent laparoscopic sleeve gastrectomy and was discharged on day one post-surgery. Eight days after the surgery, she was readmitted to the stroke unit with a diagnosis of a right-sided brain stroke, which was evident in a CT scan of her brain. CT scan of her abdomen ruled out any post-surgical abdominal complications. A repeated CT scan of her brain on the eleventh day after surgery showed multiple brain abscesses with midline shift requiring craniotomy. She was hospitalized for eight weeks and received medical care and rehabilitation from a multidisciplinary team (MDT) involved in the treatment of patients with obesity. Upon discharge, she had residual right-sided weakness and continues to receive regular follow-ups with a dietitian, psychiatrist, neurologist, and bariatric surgeon.

Conclusion:
Although the incidence of neurological complications following sleeve gastrectomy is low, it poses significant challenges when it occurs in patients with obesity. Multidisciplinary team management plays a crucial role in achieving optimal clinical outcomes.

List of abbreviations:

Laparoscopic Sleeve Gastrectomy (LSG), Metabolic Bariatric Surgery (MBS), Body Mass Index (BMI), CT (Computerized Tomography), Multidisciplinary team (MDT).

Keywords: Laparoscopic Sleeve Gastrectomy, Neurological Complications, Stroke, Brain Abscess.

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Novel sleeve plus procedure : Sleeve with sleeve jejunal bypass

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Background:
This is a Sleeve Plus procedure, that maintains biliary access by avoiding duodenal transection and no blind area, and is a proximal jejunal bypass as compared to a SASI procedure, to avoid nutritional complications.

Methods:
After performing a regular antrum-resecting sleeve, a Jejunal loop anastomosis is done at 100-150-200 cm from DJ flexure depending on total bowel length using a 45mm cartridge, ensuring a common channel preferably of 400cm or more. Leak test is done with methylene blue and Petersen's space is closed with non-absorbable sutures.

Results:
87 patients underwent this procedure, in last 5yrs, without any intra-operative or immediate post-operative complications and all patients were discharged within 2-3 days.

8 patients had complications such as nausea, vomiting, diarrhoea, dumping syndrome, hypoproteinemia and hypoalbuminemia. 3 patients required a partial reversal of the procedure [disconnection of the jejunal bypass while maintaining the sleeve]; others were managed conservatively. No mortality was seen in this study.

Conclusions:
This bypass can be performed safely and easily, as all surgeons are comfortable with sleeve and a single anastomosis loop bypass, with the added advantage of maintaining endoscopic access to the duodenum and bile duct. If necessary, disconnecting the GJ anastomosis while preserving the sleeve gastrectomy is a technically simpler reversal compared to OAGB or RYGB

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Obesity and Cardiovascular Diseases, Cross sectional Study in Saudi Arabia "OCCURS".

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King Fahad Medical City, Riyadh

Background:
In 2020, more than one-third of the global adult population were overweight of which 30% were living with obesity. The prevalence of obesity in Kingdom of Saudi Arabia (KSA) is estimated to rise to 92% in men and 75% in women by 2050. Epidemiological studies have identified obesity as a risk factor for cardiovascular diseases (CVD) which is the leading cause of death and disability. CVD-related mortality alone accounts for approximately 42% of all deaths in KSA.

Objectives:
To estimate the prevalence of CVD among people with obesity (PwO), with and without T2D, other obesity related complications (ORCs) and quality of life (QoL) of PwO in Saudi Arabia.

Method:
This is a multi-center, observational study, enrolled patients from a representative sample of public and private hospitals across KSA. Patient's outcomes were collected in a cross-sectional manner and retrospectively as well from the electronic medical records.

Results: out of the 1057 patients enrolled in the study, 675 patients were PwO without T2D as cohort one, and 382 were PwO with T2D as cohort two. the prevalence of CVD across cohort one was 28.59%, this was hypertension (16.6%) and dyslipidemia (20.4%), and (2.4%) for the other serious CVD including Atrial fibrillation, angina, stroke, MI, transient Ischemic attacks and heart failure. on the other hand, PwO with T2D were more suffering from CVD (84.55%). The overall prevalence of CVD across PwO with and without T2D was 48.8%. For the ORCs, one out of ten of PwO were suffering from either asthma or osteoarthritis. QoL of PwO were highly impacted by obesity, more than half of participants reported that obesity has moderate to severe impairment in their daily work practice.

Conclusion:
In conclusion, among PwO in KSA, the prevalence of CVD was high, either among PwO with or without T2D. In addition, there was a negative impact in the QoL of PwO due to obesity. Treatment protocols of obesity should shed the light towards the high linkage between obesity and CVD.

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Obesity management in primary care by a bariatric general practitioner - a retrospective review

Chaey Leem
Te Whatu Ora Waitematā

Background:
Obesity is yet to be recognised as a chronic medical disease in New Zealand. Although more than one-third of people in New Zealand suffer from obesity, there is little guidance on obesity management for general practitioners (GPs). A viable model in primary care may include utilising GPs with a special interest in obesity management.

Objectives:
We present the results of a two-year retrospective audit of 132 patients treated by a bariatric general practitioner in an urban general practice in Auckland, New Zealand.

Methods:
All adult patients who have been consulted by a bariatric general practitioner for obesity have been included over a two-year period. A detailed obesity history was taken, including - motivations for treatment, weight history, current diet/exercise patterns, and screening for obesity-related complications. The disease model of obesity was then discussed with the patient along with the treatment plan. Treatment options included lifestyle changes, very low-calorie diets, referral to a dietitian and/or psychologist, and medications including metformin, topiramate, phentermine, naltrexone/bupropion, and liraglutide. Bariatric surgery was also discussed for appropriate patients. Data collection included basic demographic data and the presence of dyslipidaemia, hypertension, and diabetes. Follow-up weight data and the length of pharmacotherapy were recorded.

Results:
132 patients were included in the analysis. 31 patients were classified as 'overweight (BMI 25-30)', and 100 patients were classified as Obesity I to V.

93 patients received pharmacotherapy at some point. 55 patients completed at least three months of medications. In this group, the average amount of weight lost was 8.7% over a period of 3-24 months. 5 patients showed no treatment response. 10 patients lost less than 5% of their initial weight. 18 patients lost 5-10% of initial weight, 12 patients lost 10-15% of initial weight, and 10 patients lost 15% of their body weight or more.

38 patients were recommended bariatric surgery as their primary treatment. 19 patients then agreed to proceed with a referral. Only two patients proceeded to surgery during the study period.

Conclusion:
Although there are some limitations, a specialist bariatric general practitioner can potentially be a useful tool in tackling the obesity epidemic in New Zealand.

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Observational study on muscle maintenance in a weight loss program with auricular acupoint stimulation and nutritional supplements

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Clinic F

Background:
In recent years, there has been a trend of increasing longevity in economically developed countries. Sarcopenic obesity, a condition characterized by the co-occurrence of sarcopenia and visceral obesity with advancing age, has emerged as a significant health challenge. Therefore, achieving healthy weight loss without compromising muscle mass is crucial. In Japan, a weight loss program that combines auricular acupoint stimulation using beads and nutritional supplements has been established for over 30 years as a method to reduce weight while maintaining muscle mass.

Objective:
This study aimed to elucidate the longitudinal changes in muscle mass and body fat mass induced by this weight loss program and to compare its effects by gender.

Methods:
This study utilized body composition data from 1,443 Japanese participants aged 10 to 70 who enrolled in a three-month diet program combining auricular acupoint stimulation and nutritional supplements (81 males, 1,362 females). Participants had 1.5mm metal beads taped to six acupuncture points on both ears for three months. They were instructed to reduce their food intake by half compared to before the program and to consume a specified amount of nutritional supplements to compensate for nutrients. Measurements were taken at baseline and every month thereafter, resulting in four data points.

Results:
Compared to baseline, the weight change after three months was -9.7±4.7% for females, and -10.5±4.5% for males. The decrease in body fat mass was -22.0±11.39% for females and -22.0±11.4% for males, while the decrease in muscle mass was -2.6±4.0% for females and -5.0±4.0% for males. Gender differences were statistically significant ($p<0.01$) in body fat mass in the second month and at all measurement points for muscle mass.

Conclusion:
This program provides approximately a 10% change in body weight for both genders. Furthermore, an improvement in the ratio of muscle mass to body fat was observed, indicating the maintenance of muscle mass. Thus, this program could serve as an effective means for healthy weight loss and combating obesity.

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One Anastomosis Gastric Bypass in A Patient With Situs Inversus Totalis and Severe Obesity

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Background:
As world obesity atlas 2022 predicts, the prevalence of obesity is growing worldwide and by 2030 there will be a billion people living with obesity.[1] This means that even patients with rare conditions like Situs Inversus Totalis (SIT) may be candidate for metabolic/bariatric surgeries. SIT is an infrequent congenital condition characterized by the complete mirror image reversal of visceral organs and its occurrence is estimated to be around 1 in every 10,000 live births.[2]

Objectives:
Currently, metabolic bariatric surgery for severe obesity stands as the sole accessible treatment option that consistently accomplishes significant weight loss and enhances obesity-related comorbidities.[3] One of the most favorable bariatric surgeries according to efficacy and comorbidity relief and also related complications is One Anastomosis Gastric Bypass (OAGB).[4] Here we outline a successful laparoscopic OAGB on a patient with severe obesity and SIT.

Methods:
The patient was a 42 years old female which was known case of Situs inversus totalis with 141 Kg weight and BMI of 51.48 Kg/m^2. She had a history of Hypothyroidism but no diabetes or hypertension. Pre-operation workup including Lab tests, Chest X-ray and Abdominal sonography revealed nothing than SIT and upper endoscopy showed large hiatal hernia. The patient was candidate for OAGB. Upon operation, the trocars placed at the mirror position to routine sites. The gastric pouch was created by four 60 mm staplers. Biliopancreatic limb was calculated to 175 cm and gastrojejunostomy anastomosis was created by 45 mm linear stapler and the defect was closed by 2/0 PDS. Air leak test was performed and drain was placed near anastomosis site. Total operation time was less than an hour and the patient was discharged one day after surgery.

Results:
At the 1month follow-up visit her weight was reduced to 128.6 Kg and BMI equal to 47.24 Kg/m^2.

Conclusion:
Doing laparoscopic surgery in patients with SIT, needs high hand-eye coordination and excellent collaboration between the surgeon, camera man and the assistant. In experienced hands, OAGB is a good option for challenging cases due to its simplicity and effectiveness.

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Online search trends related to bariatric surgery and its relationship with utilization in Australia.

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Introduction:
There is an abundance of information on the internet related to bariatric surgery. Patients may prefer a specific type of bariatric surgery based on what they read online. The primary aim of this study was to determine online search trends in bariatric surgery over time in Australia and worldwide. The secondary aim was to establish whether a relationship exists between public online search activity and the types of bariatric surgery performed in Australia.

Methodology:
The terms “adjustable gastric band”, “sleeve gastrectomy”, and “gastric bypass surgery” were submitted to Google Trends for search volume analysis in Australia and worldwide. This was compared alongside the numbers of gastric bandings, sleeve gastrectomies, and gastric bypass surgeries performed in Australia over time to determine if there was a relationship between the two.

Results:
Search trends for “adjustable gastric band” and “sleeve gastrectomy” in Australia were similar to trends seen worldwide. However, search trends for “gastric bypass surgery” differ between Australia and the rest of the world. It took at least a year for online searches to reflect the higher number of sleeve gastrectomies performed relative to gastric bandings. There was a lag time of over four years for online searches to reflect that the number of gastric bypass surgeries performed was higher than the number of gastric bandings.

Conclusion:
Search interests in Australia and worldwide were similar for gastric banding and sleeve gastrectomy but different for gastric bypass surgery. There appears to be a lag time of years before online search volumes reflected real-life bariatric surgery activity in Australia.

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Optimal Length of Biliopancreatic Limb in Single Anastomosis Sleeve Gastrointestinal Bypass for Treatment of Severe Obesity: Efficacy and Concerns

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Purpose:
The present study aimed to compare two newly introduced procedures, single anastomosis sleeve jejunal (SASJ) with ileal (SASI) bypass in terms of weight loss, remission of obesity-associated medical problems, complications, and nutritional status.

Materials and methods:
This retrospective study was carried out with 162 patients who underwent single anastomosis sleeve gastrointestinal bypass from October 2017 to September 2021, either single anastomosis sleeve jejunal bypass (SASJ) or single anastomosis sleeve ileal bypass (SASI). The main outcome measures were weight loss and improvement in obesity-associated medical problems, nutritional status, and complications at 12 months post-surgery.

Results:
At 12 months, both groups showed significant weight loss and remission in obesity-associated medical problems. There were significant differences in body mass index (BMI), total weight loss (TWL), and excess weight loss (EWL) between SASI and SASJ bypass ($P < 0.05$). Improvements in associated medical problems after the two procedures were similar except for hypertension. The reversal surgery rate of the SASI group was significantly higher than that of the SASJ group (5.5% vs. 0.0%, $p = 0.03$).

Conclusions:
SASJ and SASI bypass achieved satisfactory weight loss and improvement in obesity-associated medical problems that were comparable between the two groups. SASI bypass was followed by a significant difference in the rate of reversal surgery at 1 year due to a short common channel, which was not observed after SASJ bypass.

Keywords: SASI bypass; Severe obesity; Single anastomosis; Sleeve ileal; Sleeve jejunal.

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Optional procedures for chronic gastric leak after sleeve gastrectomy: the role of laparoscopic roux-en-y fistulo -Jejunostomy.

Mohammad Alhuniti
Royal Medical Services

Background:
Sleeve gastrectomy (SG) now a day's consider number one bariatric procedure in the world. With a significant weight loss. However, leak is still one of the most common complications after SG. it's about 2% in specialized and advanced bariatric centers. The management is so difficult, and it may take a long time, and the management is multi-disciplinary and multi modal and dependent on surgeons experience, so, post-SG chronic leak and fistulas more or less the management be surgical, including immediate diagnostic laparoscopy with peritoneal wash , drainage of abscess by insertion a drains, suturing of disrupted staple line-the site of leak, maybe re-sleeve, or gastric bypass, or total gastrectomy. Roux-en-Y fistula-jejunostomy (RYFJ) has been described as one of the best management options and a salvage option.

Methods:
The expert Pannels collect a lot of data between 2007 and 2018, multi centers with post-SG fistula.

Before surgery, the experts choose only the patients affected by obesity whom their management trials failed before they go to the feasible fistulo- jejunostomy

Results:
The experts find that the result was acceptable and feasible optional which decrease the hospital stay and decrease the failure rate in management and increase the possibility of optimal clinical response for the treatment of chronic leak in sleeve gastrectomy

Conclusions:
Laparoscopic Roux-en-Y Fistulo- Jejunostomy.is consider a safe and feasible and applicable optional procedure for the treatment of patients with chronic leak post-SG with a fistula. Maybe Longer follow-up and data analysis is, however, needed especially regarding the weight loss and metabolic outcome of the procedure.

Keywords: sleeve gastrectomy, leak, fistula-jejunostomy, stent

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Overweight/Obesity-related gene signature in colon cancer

Yue Wang, Liesheng Lu

Background:
People affected by obesity have about a 30 percent higher risk of colorectal cancer compared to people of normal weight. However, whether overweight/obesity is an independent prognostic factor is arguable, and the role of overweight/obesity-related metabolisms in the progression of colorectal adenocarcinoma is scarcely known.

Objectives:
To identify the role of overweight/obesity-related metabolisms in the progression of colorectal adenocarcinoma.

Materials and methods:
In the present study, clinical information, mRNA expression profile, and genomic data were downloaded from The Cancer Genome Atlas (TCGA) as a training cohort (TCGA-COADREAD) for the identification of overweight/obesity-related genes. Machine learning and the Cox regression analysis were conducted for the construction of the overweight/obesity-associated gene (OAG) signature. The Kaplan–Meier curve, receiver operating characteristic (ROC) curve, and the Cox regression analysis were performed to assess the prognostic value of the OAG signature, which was further validated in two Gene Expression Omnibus (GEO) cohorts. GSE66279 was retrieved to evaluate the underlying response of carboplatin. The Genomics of Drug Sensitivity in Cancer (GDSC) database was employed for the evaluation of chemotherapeutic response.

Results:
Overweight/obesity-associated genes was mainly involved in metabolic processes and noticeably and markedly correlated with prognosis and TME of HCC. Afterward, a novel established OAG signature (including 9 genes, namely, AVPR1A, TNFRSF12A, TIMP1, CTH, BCL2, LGALS3, ERBB3, IGFBP6 and BID) divided patients into high and low OAG score groups with distinct prognosis ($p < 0.0001$),and the values of area under ROC curve (AUC) in predicting 1-, 2-, 3-, and 4-year OS were 0.79, 0.87, 0.85, and 0.87, respectively. Moreover, the OAG score was independent of clinical features and also exhibited a good ability for prognosis prediction in the GSE60697 and GSE29621 datasets. Expectedly, the OAG score was also highly correlated with metabolic processes, especially oxidative-related signaling pathways. In addition, the OAG score was significantly associated with the response of carboplatin.

Conclusions:
Overall, this study comprehensively disclosed the relationship

between BMI-guided genes and COADREAD. Moreover, the OAG signature

had the potential clinical applications in the future to promote clinical management and precision medicine of COADREAD.

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Paradoxical use of GLP1 analogues in Post (metabolic) Bariatric Surgery Hypoglycaemia (PBSH)

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Post (metabolic) bariatric surgical hypoglycaemia (PBSH) is emerging as an adverse event (2% incidence in our series reported 2022). Early dumping syndrome occurring soon after eating, is attributed to volume changes and hypotension with symptoms similar to hypoglycaemia except blood sugars are normal. Post prandial surgical hypoglycaemia (PBSH) previously called 'late dumping' syndrome, presents similarly but occurs approximately 3 hours after eating with confirmed hypoglycaemia (blood sugar <3mmol).

The mechanism of PBSH is attributed to massive upregulation of the incretin pathway (post eating) as a function of the anatomical diversion and 'food contents' directly activating these cells. Treatment remains a challenge, and in very recalcitrant cases, may require surgery reversal

Patients presenting post-surgery in a situation of recurrent weight gain are responding very well to GLP1 analogues and successfully returning to their nadir post operative weight.

We are reporting our first case of a patient, who went into a situation of recurrent weight gain at nine years post-bariatric surgery, presented with PBSH and responded to GLP1 analogue therapy. She was in despair about recurrent weight gain . She had both 'early dumping syndrome' and ' late dumping syndrome episodes (PBSH) ' confirmed by glucose values < 3.0mmol with symptoms. It would seem counterintuitive to prescribe a GLP1 agent in this situation. But based on 2 case presentations,we cautiously introduced semaglutide, escalating slowly to 1 mg/weekly. She successfully re-achieved her nadir weight.

All of her symptoms resolved. She was unable to access semaglutide for 2 months with national supply shortage. She had recurrent weight gain and re-presented with the dramatic symptomatic hypoglycaemia and blood sugar values < 3.0. She restarted the semaglutide and the symptoms resolved. We can only surmise, that as patients paradoxically respond to these agents having had recurrent weight gain (assuming an already upregulated incretin system), and then losing weight, that the same mechanism prompting hypoglycaemia is somewhat tempered by an external incretin agent. Whether this is due to alterations in tonic secretion, or differing incretin receptor effects remains to be explored.

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Partially eroded banded gastric bypass.

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42 years old lady known case of:
- obesity class 1 underwent Gastric bypass surgery in Lebanon in 2009 preoperative weight was 85 kg BMI was 33 kg/m2, minimum postoperative weight was 50 kg

In 2012 she underwent laparoscopic adjustable gastric banding over the gastric bypass. Preoperative weight was 64 kg minimum weight 40 kg she was admitted in Feb 2023 for 2 months in ICU for unexplained sepsis. Septic work and radiological investigations retained the diagnosis of Partially Eroded Banded gastric bypass.

After stabilisation of the patient and correction of nutritional deficiencies a laparoscopic removal of partially eroded gastric banding over gastric bypass & feeding gastrostomy at excluded stomach.

Postoperative course was uneventful.

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Patient Feedback on the Most Important Outcomes of Bariatric Surgery: Using Focus Groups to design a bariatric-specific PROM

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Monash University

Background:
The prevalence of bariatric-metabolic surgery for the long-term treatment of obesity has facilitated a rising interest in the impact these procedures have on the psychosocial health and quality of life of bariatric patients. The Australian and Aotearoa New Zealand Bariatric Surgery Registry (ANZ BSR) is currently working to develop a Patient-Reported Outcome Measure (PROM) specific to these outcomes.

Objectives
The current study aims to collect patient insight on a list of outcomes rated highly important by pre-surgical, post-surgical, and healthcare practitioners, which are to be used in the development of a PROM.

Methods
Post-surgical patients randomly selected from the ANZ BSR were invited to participate in focus groups held via an online platform (Zoom). During Focus Groups the results of a modified Delphi survey were displayed to participants. Results included the average importance score assigned to a list of bariatric surgery outcomes by pre-surgical patients, post-surgical patients, and a variety of healthcare practitioners. Focus Group participants were asked to discuss the results, identify which outcomes they would include in a questionnaire to assess patient outcomes over time, and vote to include or exclude those outcomes.

Results:
Four focus groups were held with a total of 17 participants. Votes conducted during focus groups were analysed by the percentage of participants voting to include each outcome and the consensus across session groups. Voting resulted in 32 outcomes to be included in questionnaire development including 7 outcomes across physical domains and 25 across psychosocial domains.

Conclusion:
Focus groups further refined a list of the most important outcomes of bariatric surgery to be used in PROM development. These outcomes will be used in a pilot questionnaire within a large sample of post-surgical patients to facilitate initial psychometric testing of the outcomes. By incorporating the views of patients and healthcare practitioners at each step of PROM development we ensure that the final PROM is meaningful and useful to all end users.

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Patients experience of chronic pain following roux en-y gastric bypass RYGB.

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Bariatric surgery is the only modality that provides a sustained weight loss, with a resultant improvement in obesity-related comorbidities. The Roux en-Y Gastric Bypass (RYGB) is one of the most effective and frequently performed bariatric procedures, accounting for 17.8% of the total performed bariatric procedures. The procedure however comes with its drawbacks including malnutrition, osteoporosis, esophagogastric cancers and chronic pain, with the chronic pain being an outcome measure that is not fully elucidated.

To provide an insight into subjective experiences of chronic pain, following RYGB, to evaluate and improve clinical practice and theory development.

This study received ethical and HRA approvals. Semi-structured interviews were conducted, in which participants were asked open questions about their real-life experiences of pain. The inclusion criteria were as following: 1) Patients who suffered from obscure chronic pain, despite extensive investigations and treatments, following RYGB, 2) Pain lasting for more than 5 years, following RYGB, 3) English speaking 4) Aged over 18 5) Access to an electronic device for the purpose of signing the consent form and participating in the interview.

Patients who lack the capacity to consent for themselves were excluded.

Five patients participated in the study. The age range was 55-69 years (mean 61.4 years). Four patients were females and one patient was a male. Chronic pain, following RYGB, produced disabilities and affected how patients performed their daily activities. It also affected emotional wellbeing and social relationships.

Chronic pain, following RYGB, is a multifaceted health condition that needs to be addressed during the counselling and also at the follow up consultations.

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Perforated marginal ulcer management after Roux-en-Y gastric bypass (RYGB) and one-anastomosis gastric bypass (OAGB): a tertiary center experience

Mostafa Nagy, Ahmed Elhoofy, Abdelrahman Elghandour
Ain Shams University, Faculty of Medicine

Introduction:
Marginal ulcers after gastric bypass develop at the margins of gastrojejunostomy, mainly on the jejunal side. Potential risk factors include non-steroidal anti-inflammatory drugs, Helicobacter Pylori infection, smoking and alcohol. We aim to share experience in our center in management of perforated marginal ulcer after RYGB and OAGB.

Methods:
Between June 2021 and June 2023, data of all patients who had perforated marginal ulcer after one-anastomosis gastric bypass (OAGB) or Roux-en-Y gastric bypass (RYGB) performed at bariatric surgery department were collected. We included patients with severe obesity above 18 years old with perforated marginal ulcer after primary OAGB or RYGB.

Results:
In this study, 378 patients were included. Of them, 252 patients had OAGB with mean age 39.1±6.8. the remaining 126 patients had RYGB with mean age 39.9±4.6. The over-all incidence of perforated marginal ulcer is 4.4%. incidence of perforated marginal ulcer after OAGB is 3.1% while that after RYGB is 7.1%. Eight patients had perforated marginal ulcer after OAGB. Of them, Five patients had revision to RYGB. Three patients were managed surgically with exploration and omental patch repair. Nine patients had perforated marginal ulcer after RYGB. Six Patients were managed surgically with exploration and omental patch repair. Three patients were managed by revision of gastro-jejunostomy.

Conclusion:
The over-all incidence of perforated marginal ulcer is 4.4%. incidence of marginal ulcer after OAGB is 3.1% while that after RYGB is 7.1%. management options after diagnosis of perforated marginal ulcer are sufficient but few prophylactic measures exist.

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Perforated ulcer of the remnant as a rare source of intraluminal bleeding 9 years after RYGB (with video)

Maja Odovic, Antonio Torres, Felipe Acedo, Gustavo Flores, Antonio Gil, Maria Perez
Complutense University of Madrid

Background :
Bleeding after Roux-en-Y gastric by-pass is the most frequent early post-operative complication with the incidence of 2.7%. The cases of late bleeding after RYGB are most commonly known for originating from the anastomotic ulcer.

Objectives:
The aim of this article it to describe, as for our knowledge, the first case of perforated ulcer of remnant 9 years after RYGB responsible for massive hemorrhage.

Methods:
Forty-four years old patient known for pyloric stenosis operated in young age, SAOS, and umbilical hernia. In 2013 he was operated on for RYGB. The post operative period was uneventful. Nine years after the RYGB surgery, patient was hospitalized on a several occasions for the dizziness, abdominal pain, melena and anemia with low hemoglobin level of 8g/dl.

Results:
The upper endoscopy and colonoscopy did not objectivize active bleeding. The gastrointestinal transit study was normal. CT scan was suggestive of small hematoma of the remnant without active bleeding. We initiated conservative treatment with blood transfusions. The patient continued to drop down the hemoglobin level. On the control CT scan the hematoma of the remnant increased and there was important distension of the remnant. The patient was reoperated. During the surgery we objectivated the active arterial bleeding coming from the ulcer perforated in the left gastric artery. In addition, there an extraluminal non-resorbable braided polyester and coated with polybutylate suture, from the previous surgery, that invaded the ulcer. We resected the remanent sectioning then distal duodenum, and we reconstructed the pouch by sectioning the part that was in contact with the remnant. During the hospital stay, patient developed small fistula of the gastric pouch treated with conservative approach with complete resolution. Post-operative period required hospitalization in Intensive Care Unit, but the finally recovered and was discharged in a good general condition.

Conclusion:
This case of bleeding from the ulcer of the remanent is surely rare, but we believe that the bariatric/metabolic society should be informed aware of its existence.

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Perioperative MUSIC implementation in BARiatric patient care: an implementation study

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Zuyderland Medical Centre

Background:
Perioperative music can have a beneficial effect on postoperative pain, opioid requirement, and anxiety. The beneficial effects are even present when music is played solely during general anesthesia. The present study aims to assess the effect of the implementation of perioperative music in elective Bariatric Metabolic Surgery (BMS) as part of standard surgical patient care.

Methods:
This is a prospective, single-center implementation study comparing pre- and post-implementation groups with inclusions between March and October 2023. The pre-implementation group did not receive music at the surgical complex while the post-implementation group all received perioperative music. Only patients undergoing elective bariatric surgery (primary banded Roux-en-Y gastric bypass) were included. The primary outcome was the postoperative pain score on a 10-point scale (NRS) on the first postoperative day. Secondary outcomes consisted of postoperative nausea, opioid and antiemetics requirement, complication rate and duration of hospital admission.

Results:
We have included 66 patients in the pre-implementation group (without music) and 65 in the post-implementation group (with music). In both groups the majority was female (84.8% vs 75.4%). A mean NRS reported by patients of 4.9 and 4.5 was found, which did not significantly differ (p = 0.387). The usage of medication (analgesics and antiemetics) was comparable in both groups. Patients were very satisfied with the perioperative tract as they reported a satisfaction score of respectively 8.3 and 8.6. In both groups the majority of patients indicated that they would want to listen to music during a subsequent surgical procedure (85.9% and 78.6%).

Conclusion:
After implementation of perioperative music in Bariatric Metabolic Surgery the postoperative pain scores reported by patients were comparable between groups with and without perioperative music. In addition, the pain scores were comparable to the current literature. As the bariatric perioperative tract is already well-received without music it poses a challenge for detecting notable improvements. However, the desire from patients for music during future surgeries emphasizes the positive perception of incorporating music into perioperative care.

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Perioperative outcomes of a handsewn versus a stapled gastrojejunostomy in laparoscopic gastric bypass surgery

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University of New South Wales

Background:
Bariatric-metabolic surgery has been shown to be an effective method in achieving successful and sustained weight loss. The formation of the gastrojejunal anastomosis (GJA) during a laparoscopy gastric bypass is one of the most technically demanding steps in the procedure and there remains controversy over whether a handsewn versus a stapled GJA is superior in weight loss achievement and complication rates.

Objectives:
This study aims to compare the outcomes of a handsewn GJA versus a mixed handsewn and linear stapled GJA in terms of total body weight lost at 3-, 6- and 12-month intervals as well as the early (<30 days) and late (30 days – 1 year) complication rates.

Methods:
A retrospective single-centre single-operator cohort study was performed on participants in a bariatric database ranging from 2013 to 2017. Anastomotic technique, participant baseline and follow-up anthropometrics and postoperative complications were recorded. 244 consecutive participants were recruited for the study with 10 excluded as lost to follow up.

Results:
There were 234 patients included in the series with 137 (58.5%) in the handsewn anastomosis group and 97 (41.5%) in the stapled group. The majority of the participants (n=173, 73.9%) were female, the mean age was 54.9 years and mean starting BMI was 44.4kg/m2. The percentage total weight loss (%TWL) between the handsewn and the stapled groups at 3-months (18.1% vs 16.4%, p=0.02), at 6-months (25.1% vs 23.6%, p=0.18) and 12-months (31.6% vs 30.4%, p=0.50) were comparable between the two treatment groups. There was also no significant difference between the late (12-month) overall complication rates (26.3% vs 25.8%, p=0.93) between the handsewn and stapled GJA groups.

Conclusion:
Our study comparing a handsewn and stapled GJA techniques demonstrated similar %TWL and overall postoperative complication rates between the two treatment groups, although the postoperative dysphagia requiring endoscopic dilatation was significantly higher in the handsewn GJA group.

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Portal vein thrombosis and enterocutaneous fistula post elective laparoscopic sleeve gastrectomy - a challenging case from Oman.

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MOH, Sultanate of Oman

Keywords: Laparoscopic Sleeve Gastrectomy, Portal Vein Thrombosis, Enterocutaneous Fistula.

Background:
Portal vein thrombosis is a rare but potentially lethal complication of laparoscopic sleeve gastrectomy. In this case report, we describe a challenging case of portal vein thrombosis and enterocutaneous fistula post-laparoscopic sleeve gastrectomy in Oman. This report outlines the presentation, treatment, and outcome of this unusual case.

Case Description:
A 36-year-old man underwent an uneventful laparoscopic sleeve gastrectomy for the treatment of obesity class I (BMI 31 kg/m2). On postoperative day three, he presented with non-focal abdominal pain, nausea, vomiting, and leukocytosis. Computed tomography revealed portal vein thrombosis, and he was started on anticoagulation. However, his serum lactate levels elevated, and he developed metabolic acidosis with features of small bowel ischemia.

The patient underwent diagnostic laparoscopy, which was converted to laparotomy, and a segmental small bowel resection was performed. He required ten re-look laparotomies due to ongoing small bowel ischemia, and a total of two meters of small bowel was resected. His resection was complicated by a leak and the development of an enterocutaneous fistula.

After stabilization of his acute surgical complications, he underwent laparoscopic repair of the enterocutaneous fistula. The patient stayed in the hospital for a total of three months and was discharged in good clinical condition with an anticoagulation course and regular follow-up in the bariatric surgical clinic.

Conclusion:
Elective laparoscopic sleeve gastrectomy can result in unusual complications such as portal venous thrombosis, which can have life-threatening consequences if not diagnosed early and treated adequately. Multidisciplinary team management plays a crucial role in the optimal clinical response.

List of Abbreviations: Enterocutaneous Fistula (ECF), Portal Vein Thrombosis (PVT), Laparoscopic Sleeve Gastrectomy (LSG), and Body Mass Index (BMI).

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Portomesenteric vein thrombosis after laparoscopic sleeve gastrectomy for severe obesity: six cases report

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China-Japan Friendship Hospital

Background:
Portomesenteric vein thrombosis (PMVT) is a rare but potentially fatal complication of laparoscopic sleeve gastrectomy (LSG). It is quite rare, and its clinical presentation, management, and sequelae remain poorly understood.

Objective:
To describe the incidence, clinical presentation, treatments and outcomes of PMVT in patients undergoing LSG in one bariatric surgery center.

Methods:
A retrospective study of a database of all patients performed LSG was conducted on the patients who developed PMVT from July 2018 to April 2024, at China-Japan Friendship Hospital, China.

Results:
A total of 2981 patients underwent LSG during the study period. None had prophylactic anticoagulation after surgery. Six (0.2%) patients were diagnosed with PMVT post-LSG. Diagnosis was confirmed by contrast-enhanced computed tomography (CECT) scan for all six patients. The mean age was 33.3 years (25 - 44), and there were 2 women and 4 men. Mean preoperative body mass index (BMI) was 42.13 kg/m2 (34.3 - 48.3), and mean operative time was 93 min. The mean onset of diagnosis after the surgery was 11.5 days (10 - 36). The main symptom in all patients was epigastric pain. All patients were treated medically with no one had reoperation. Five patients had enoxaparin and all had rivaroxaban with a mean treatment time of four months (45d-210d). There were no deaths.

Conclusion:
PMVT after LSG is a rare but possibly fatal complication. It should be highly suspected with patients presenting with abdominal pain. The rate of PMVT in our center is not high without routine prophylactic anticoagulation after surgery. All patients were treated conservatively.

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Portomesenteric vein thrombosis after laparoscopic sleeve gastrectomy for severe obesity: six cases report

Biao Zhou, Hua Meng, Lei Zhang
China-Japan Friendship Hospital

Background:
Portomesenteric vein thrombosis (PMVT) is a rare but potentially fatal complication of laparoscopic sleeve gastrectomy (LSG). It is quite rare, and its clinical presentation, management, and sequelae remain poorly understood.

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A retrospective study of a database of all patients performed LSG was conducted on the patients who developed PMVT from July 2018 to April 2024, at China-Japan Friendship Hospital, China.

Results:
A total of 2981 patients underwent LSG during the study period. None had prophylactic anticoagulation after surgery. Six (0.2%) patients were diagnosed with PMVT post-LSG. Diagnosis was confirmed by contrast-enhanced computed tomography (CECT) scan for all six patients. The mean age was 33.3 years (25–44), and there were 2 women and 4 men. Mean preoperative body mass index (BMI) was 42.13 kg/m2 (34.3–48.3), and mean operative time was 93 min. The mean onset of diagnosis after the surgery was 11.5 days (10–36). The main symptom in all patients was epigastric pain. All patients were treated medically with no one had reoperation. Five patients had enoxaparin and all had rivaroxaban with a mean treatment time of four months (45d-210d). There were no deaths.

Conclusion:
PMVT after LSG is a rare but possibly fatal complication. It should be highly suspected with patients presenting with abdominal pain. The rate of PMVT in our center is not high without routine prophylactic anticoagulation after surgery. All patients were treated conservatively.

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Post gastric by pass gastric lymphoma

Saleh Abujamra
Libyan Society of Metabolic and Bariatric Surgery

53 years male with obesity 2/ diabetes post sleeve gastrectomy 3 years with suboptimal wt loss discussed with endocrinologist, nutritionist, and decision for conversion to RYGB with in the first 6 months post operative period our patient satisfied of results diabetic control and wt loss. But 4 months later (10 months since RYGB) patient presented with generalized fatigue pallor significant wt loss and melena, routine investigations CBC showing severe anemia hg 7g/dl WBC29000, further work up *uss abd showed heterogeneous mass under the Gastro jujenostomy *upper GI endoscopy with normal mucosa of gastric pouch and normal anastomosis site. Contrast CT SCAN abd and pelvis showed large heterogeneous mass fill full the residual distal gastric part (excluded residual stomach).

Bone Tumour in favor of gastric lymphoma (CEA CA19.9 were normal) bone marrow cytology showed Hodgkin lymphoma patient informed about his disease in presence of physiologist oncologist... patient treated with chemotherapy after 3rd cycle good response it was in debate with multidisciplinary team for laparoscopic gastric resection to the residual stomach but chemotherapy was first option and now patient in remission with meticulous follow up for >50 years patient we consider upper and lower GI endoscopy before metastatic /bariatric surgery

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Post-site hernia causing obstruction in OAGB

Mahak Bhandari, Manoj Kumar Reddy, Winni Mathur, Mohit Bhandari
Mohak Bariatrics and Robotics

Introduction:
OAGB is one of the most commonly performed surgery for weight loss. While minimally invasive and effective, there can be complications. This presentation explores post-site hernia, a potential complication, and its role in causing obstruction.

Objective:
To illustrate the causes, symptoms, diagnosis, and treatment of post-site hernia causing obstruction following OAGB surgery.

Methods:
We are presenting video on port site hernia causing obstruction and how we managed it with surgery.

Conclusion:
The presentation will emphasize the importance of early recognition and management of post-site hernia to prevent complications and ensure optimal clinical response outcomes after OAGB surgery.

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Prediction model of diabetes remission at 1 year after sleeve gastrectomy in Chinese and comparison with other models

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The Third People's Hospital of Chengdu

Background:
While numerous prediction models are available for diabetes remission following bariatric surgery, specifically Roux-en-Y Gastric Bypass (RYGB), there is a marked lack of models based on sleeve gastrectomy (SG).

Objectives:
This study's primary goal is to establish a predictive model for diabetes remission following SG and evaluate the efficacy of existing predictive models.

Methods:
Patient data were gathered from a cohort study titled "Longitudinal Study of Bariatric Surgery in Western China." Missing values were filled utilizing random forest methodology. The Synthetic Minority Over-Sampling Technique (SMOTE) was implemented, followed by univariate logistic regression analysis to identify factors linked to diabetes remission. All statistically significant factors were included in a subsequent stepwise multivariate analysis. A nomogram was constructed using the final model's variables. The model's predictive accuracy was evaluated using the Receiver Operating Characteristic (ROC) curve, calibration plot, and Decision Curve Analysis (DCA). Additionally, nine pre-existing predictive models were externally validated using the data.

Results:
Initially, we enrolled 166 patients, with a diabetes remission rate of 89.2%. Upon the application of SMOTE, univariate logistic regression identified factors such as sex, diabetes duration, use of diabetes medications (excluding insulin and metformin), fasting blood glucose levels, and HbA1c levels as significantly impacting diabetes remission. A nomogram was constructed using sex, diabetes duration, the quantity of non-insulin and non-metformin diabetes medications, and HbA1c levels, as revealed by stepwise multivariate logistic regression. The ROC curve demonstrated a superior Area Under the Curve (AUC) of 0.852 (95% CI: 0.808-0.896) for the nomogram compared to the nine predictive models.

Conclusion:
The nomogram exhibited a high level of efficacy in predicting diabetes remission in Chinese patients undergoing SG.

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Presurgical psychosocial evaluation of bariatric surgery candidates in the metabolic & bariatric surgery clinic of the EIMC of Thessaloniki

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European Interbalkan Medical Center, Bariatric & Metabolic Surgery Clinic, COE-BMS

Background:
Pre-surgery psychological assessment is considered in the last few years a prerequisite in the evaluation of individuals seeking Metabolic Bariatric Surgery (MBS) given the high incidence of psychiatric comorbidity of this population. Therefore, various recommendations for the pre-operational psychosocial evaluation have been proposed. The aim of those recommendations is not only to diagnose any psychiatric illness but to evaluate the mental health stability of the patients to undergo surgery and to assess their level of motivation for the surgery. The final goal of these evaluations and possible interventions is to enhance surgical outcome.

Objectives:
The objective of this study is to review in short, the recommendations for this evaluation and to confirm the degree of compliance with those in the clinical practice of our Center.

Methods:
Firstly, we searched PubMed for studies of the last two decades and reviewed articles of relevant literature. Then we compared our everyday clinical practice to the recommendations given by the authors.

Results:
Twenty- five publications matched our search proposing different methods of assessment in individuals seeking bariatric treatment and presenting the predictive role of some psychosocial factors. Despite of their differences some main topics were common including:

a. the use of clinical interview by trained psychologists and psychiatrists.

b. the use of questionnaires about psychopathology, eating behaviors and quality of life.

c. the evaluation of current stressors- support, as well as adherence to the presurgical procedures.

Conclusion:
Presurgical psychosocial assessment and interventions form an important part of medical care for individuals undergoing bariatric surgery. Following international recommendations is a compass for optimal results and our everyday clinical practice in Bariatric & Metabolic Surgery Clinic the European Interbalkan Medical Center of Thessaloniki is in accordance with them.

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Primary report about gastroesophageal reflux disease (GERD) after Single Anastomosis Sleeve-Jejunum surgery (SASJ)

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Purpose:
Improvement in GERD symptoms after SASJ was reported, and we evaluated our data.

Method:
The gastroesophageal reflux disease (GERD) questionnaire was used. Fifteen patients with GERD symptoms (>8 points) who underwent SASJ surgery were included. These 15 patients were performed by one surgeon. In the GERD questionnaire, internal consistency was calculated using Cronbach's alpha coefficient values for all six items. A GERD diagnosis was considered positive if the questionnaire score was >8.

Result:
There were 15 people diagnosed as positive and with questionnaire scores >8 points. Six months after surgery, 10 patients scored >8 points on the GERD questionnaire, but their GERD still had not improved.

In conclusion:
Our main report showed improvement in GERD symptoms after SASJ in 5 of 15 cases (33%). However, the incidence of non-improvement after SASJ remained high (10 of 15 cases). A larger number of patients and a longer follow-up period should be evaluated.

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Prospective study of Impact of One Anastomosis Gastric Bypass (OAGB) on lifestyle, commodities and nutritional status at 4 years after–a single cent

Poonam Shah, Radhika Shah, Sayeda Shaikh, Shashank Shah
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Background:
Data on OAGB is emerging. However, data on impact on the lifestyle is scarce. This is the first study evaluating impact on lifestyle.

Objective:
To study the impact of OAGB on lifestyle, comorbidities, and nutritional status at 4 years.

Methods:
78 patients who underwent OAGB in 2019 were studied with respect to demographic, biochemical and nutritional parameters. Lifestyle was studied using fantastic lifestyle questionnaire (FLQ). Diet history, food frequency and eating pattern was studied using a food frequency questionnaire, 24 hours recall and a self-designed questionnaire. Nutritional status and Comorbidity status was evaluated by Bio-chemical, laboratory parameters,

Results:
Mean BMI i 42.9kg/m2, Mean Age 41 years, Male to female 51.3% : 48.7%**,** Diabetes Mellitus II 66.7%, Hypertension 50%, Fatty liver 74% Fatty pancreas 7.7% obstructive sleep apnea 47.4%, dyslipidemia in 67.2%. FLQ showed good lifestyle in 69.2%, fair in19.2% and very good in 11.5%. No patients showed poor impact on lifestyle. BMI dropped significantly at 4 years to a mean of 29.2kg/m2 and 48% patients showed decreasing trend till 3rdyear. Diabetes resolved in 82%, fatty liver in 90%, OSA in 80% dyslipidemia 90%. Hypertension improved in 78% but was resolved only in 18% patients. 58 patients had vitamin B12 deficiency at baseline as against 8% at 4 years. There was no significant difference in other nutritional parameters. Positive impact on lifestyle including eating behavior was a new finding in this study.

Conclusion:
OAGB is effective in weight reduction and improvement in obesity related comorbidities. Appropriate nutritional supplementation and follow up can minimize nutritional deficiencies can induce favorable lifestyle change up to 4 years. Larger studies are necessary to focus on lifestyle change with different questionnaires after OAGB as well as other bariatric procedures.

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Prospective study: soma program post-bariatric integrative therapy

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CoEED Ltd Pty Esus Centre

Background:
Bariatric Metabolic Surgery (BMS) is reported to be the most effective treatment for obesity. Prevalence of eating disorders is high in people with higher weight and remains consistently under-treated in Australia. Patients who report a history of disordered eating are associated with poorer outcomes following BMS. Few therapeutic interventions exist in Australia that comprehensively address the critical intersection between obesity treatment and eating disorder treatment. Treatment must address the correct symptoms and support the physiological, psychological, emotional, and social health needs that arise during the critical postoperative period.

Objective:
To support through interdisciplinary care the complex needs that commonly arise post-operatively. Through targeting eating disordered psychopathology, development, and maintenance factors, therapy aims to reduce disordered eating behaviour, improve mood, and increase proficiency in functional coping strategies.

Method:
Participants will attend a ten-week, full-day, weekly integrative therapy program. Two additional follow-up sessions offered at ten weeks and twenty weeks post completion. Data collected at baseline, at completion of ten-week program, and at each follow up session.

Materials:
1. Eating Disorder Examination (EDE-Q); 2. The Repetitive Eating Questionnaire (Rep(eat)-Q); 3. External Internal Shame Scale (EISS); 4. Body Perception Questionnaire (BPQ); 5. Scale of body connection (SBC); Generalised Anxiety Disorder scale (GAD-7); and Patient Health Questionnaire (PHQ-9).

Results:
Expected decrease in EDE-Q global score, eating concern, shape concern, weight concern subscales. Expected decrease in repetitive eating behaviour, depression and anxiety symptomology, internal and external shame scale scores. Expected increase in body awareness and body connectedness. Secondary outcomes will assess the impact on recurrent weight gain at follow-up.

Conclusion:
Historically care of patients with comorbid eating disorders and obesity has been siloed in one or other treatment setting. The proposed integrative approach views this coordination between fields as the most effective way to meet the complex needs of individuals who too often remain untreated and unsupported in our community. This approach places each person at the centre of their care and ensures access to treatment for both conditions without one hindering the other.

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Quality-of-life measurement tools for patients undergoing body contouring surgery post massive weight loss

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Background:
Body contouring surgery is commonly performed after massive weight loss to address skin and soft tissue redundancy. With the increasing prevalence of obesity and growing availability of metabolic bariatric surgery, it is important to objectively quantify the impact of skin redundancy on patients' quality-of-life during their weight loss journey. These tools can also be used to objectively assess their outcomes post-body contouring surgery. Currently, there is no universal consensus on which measurement tool is most appropriate for this task.

Objectives:
To identify and compare the available patient-reported outcome measures developed for patients undergoing body contouring surgery post-massive weight loss.

Methods:
A systematic literature search was performed on MEDLINE, EMBASE, PsychINFO, Embase, CINAHL, Cochrane Database Systematic Reviews, CENTRAL, HAPI, Science Citation Index/Social Sciences Citation Index, and Ovid Evidence Based Medicine databases from inception to March 2024 identifying any studies which developed or appraised patient-reported outcome instruments designed for use in body contouring surgery patients. Eligible studies were appraised using the Consensus-based Standards for the selection of health Measurement Instrument checklist.

Results:
Of the 7 instruments identified, BODY-Q (30 domains and 259 items) has the most robust development and validation methodology, reliability, and internal consistency.

Conclusion:
The BODY-Q questionnaire should be utilised in future studies and clinical practice when assessing patient-reported quality-of-life outcomes due to its comprehensiveness, and validation across multiple studies and patient cohorts.

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Quantifying the effectiveness of tinzaparine after metabolic bariatric surgery with anti-Xa levels – Study protocol and initial experience

Athanasios Pantelis, Dimitris Lapatsanis
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Background:
Patients undergoing metabolic bariatric surgery (MBS) are at increased risk of venous thromboembolism (VTE), including deep vein thrombosis (DVT), pulmonary embolism (PE), and portomesenteric vein thrombosis (PMVT). Nevertheless, the ideal regimen of thromboprophylaxis remains elusive, as recommendations are based on consensus rather than high-level evidence.

Objectives:
To quantify the effectiveness of tinzaparin titrated according to body weight by measuring the levels (activity) of anti-Xa on postoperative day (POD) 3.

Methods:
All consecutive patients fulfilling the relevant criteria who will undergo MBS (index or revisional) at our service over 2 years will be included in the study. According to our protocol, patients start the first weight-adjusted tinzaparin dose 4 hours after the operation and administration continues once daily for 20 days. Anti-Xa levels are measured on POD-3. The acceptable range of thromboprophylactic anti-Xa levels is 0.20-0.50 IU/mL. The dose is upgraded if anti-Xa is lower or downgraded if higher. Recorded data include demographics, body measurements, obesity-related health problems, preexisting coagulation disorders, type of MBS, operative time, in-hospital stay, dose of tinzaparin, onset of tinzaparin administration, anti-Xa levels (chromogenic method) on POD-3, and 90-day complications (thrombotic and general). Continuous data will be presented as mean ±standard deviation (range), while categorical data will be expressed as frequencies and percentages. Non-consenting patients and those with known allergies to heparins, disruption of prophylaxis due to hemorrhagic complications, already receiving anticoagulation, or having serious comorbidities will be excluded.

Results:
Since the beginning of the study, 8 patients have been recruited (5 females, 62.5%), with a mean BMI of 40.3 Kg/m^2. The median dose of tinzaparin was 10,000 IU, the mean interval between the end of operation and the onset of anticoagulation was 11h 48min, and the mean anti-Xa level 0.385 IU/mL. At one month, no thrombotic or hemorrhagic complications have occurred.

Conclusion:
So far, the empiric administration of weight-adjusted tinzaparin seems to be safe and effective, according to anti-Xa levels. This remains to be proven in the long run upon the completion of the study.

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Recurrence of hernias after concomitant operation of bariatric surgery and hernia repair. Case report and literature review

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Severe obesity has been associated with higher incidences of abdominal wall hernias. Management of abdominal wall hernias in patient with severe obesity remains a challenging condition for surgeons. Single-staged and multi-staged operation have both been reviewed but no consensuses has yet been established.

We present two cases of abdominal wall hernia underwent concomitant surgery with bariatric surgery, but both resulted in recurrence. The first case, a 47-year-old male with body weight of 119.4 kg and body mass index (BMI) of 43.22 underwent concomitant surgery of laparoscopic sleeve gastrectomy (LSG) with left inguinal hernia repair by transabdominal preperitoneal approach (TAPP) with 15*10 cm mesh fixation. Thirteen months later, hernia recurrence occurred after a total body weight loss (TBWL) of 41.5% from bariatric surgery.

The second case, a 61-year-old female underwent concomitant surgery of LSG and ventral wall hernia repair at the body weight of 142 kg and BMI of 68.47. Recurrence of ventral wall hernia occurred 30 months after bariatric surgery with TBWL of 38.3%. Both patients underwent further hernia repair uneventfully and no signs of mesh infection from previous surgery. We aim to focus on single-staged operation with emphasize on mesh adjustment and placement for patients with severe obesity and abdominal wall hernia.

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Relationship between visceral fat and insulin resistance in patients post-bariatric surgery

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Federal University of Santa Maria

Background:
Obesity is a global and social condition and bariatric/metabolic surgery is an effective treatment after unsuccessful attempts of conservative therapies.

Objective:
To evaluate the relationship between visceral fat loss and insulin resistance in patients post-bariatric surgery in a population from Rio Grande do Sul, Brazil.

Methods:
This is a retrospective, descriptive and observational cohort study. Performed in a private bariatric/metabolic surgery clinic. The data presented was attained from a database of patients that underwent gastric bypass surgery in the period of January to March 2023. Body composition, BMI, excess weight loss and visceral fat were collected at 0, 1 and 6 months post-surgery. Biochemical data, such as, fasting glucose and fasting insulin was collected by HOMA-IR at 0 and 6 months post-surgery for the evaluation of insulin resistance.

Results:
The population studied was composed of 50 adults of both sexes, most of them women with a mean age of 42.8 years. The sample showed a high incidence of chronic diseases associated with obesity, with a prevalence of 56% of dyslipidemia and 72% of hepatic steatosis. Regarding weight, a 60% loss of excess weight was achieved, as well as reduction in fasting glucose (84,86±8,12), fasting insulin (9,29±5,96), and insulin resistance. A strong and direct correlation between excess weight loss and reduction of body fat can be observed 1 month (0.58) and 6 months (0.75), post surgery. Six months post-op, excess weight loss can still be attributed to reduction of body fat, specifically visceral fat (0.75). Furthermore, there is no evidence of reduction in lean mass in the studied period (1 and 6 months post-op) due to excess weight loss post-bariatric surgery.

Conclusion:
This study has demonstrated that bariatric/metabolic surgery is efficient not only in reducing excesso weight and obesity prevalence, but also in improving metabolic outcomes in patients with obesity.

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Removal of the formation of the esophagocardial zone when performing single-anastomotic bypass surgery

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RCH SDMC FMBA

Bariatric patients are subject to more extensive preoperative evaluation than nonobese patients. Considering that bariatric surgery involves intervention on the stomach, there is a need to perform a full-fledged upper endoscopy examination, which is not a requirement in many clinics.

A clinical case of bypass surgery is presented where a patient, a 33-year-old man with a BMI of 44 and concomitant hypertension and type 2 diabetes, was diagnosed with an esophagocardiac zone formation intraoperatively, which was not detected preoperatively due to inadequately performed upper endoscopy examination. This finding influenced further surgical tactics. Originally, laparoscopic longitudinal gastrectomy with single-anastomotic duodenal bypass was planned. However, due to the detected formation, it was removed, prompting a change in the type of single-anastomotic bypass. The entire operation was performed laparoscopically, lasting 158 minutes, with no complications during the postoperative period. The patient was discharged on the 7th day after surgery. One month follow-up showed the absence of dysphagic phenomena and a satisfactory upper endoscopy exam.

Thus, routine upper endoscopy examination is required for bariatric patients at the preoperative stage.

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Results of 3,710 cases using barbed suture in bariatric surgery. Retrospective study of a bariatric center

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Background:
Barbed sutures were first introduced in 1964. These sutures offer advantages such as reduced operative time and greater efficiency in wound closure, as they securely hold layers of tissue together, minimizing the risk of leaks and bleeding, contributing to improved patient outcomes and reduced complication rates. Its use in bariatric surgery has been studied in recent years, we present our experience with its use.

Goals:
To describe the experience of a center in the use of barbed suture in bariatric surgery and the results in terms of complications with its use for the creation of anastomosis.

Methods:
Cross-sectional study, with retrospective review of a prospectively collected database of the center including 3710 patients over a period of 9 years. Data was collected through review of medical records, demographic data, surgical and hospital information, complications and reinterventions.

Results:
For the 3710 patients, the average age was 35.8 years, with average BMI of 41.3 kg/m2, 74.5% were women. 92.6% of procedures were gastric sleeve and the remaining 7.4% correspond to gastric bypass (Roux-en-Y reconstruction and one anastomosis), band and gastric ring removals were excluded. All gastric sleeves underwent reinforcement of the suture line with invaginating barbed suture and in all gastric bypasses the anastomosis were performed with staple suture and closure of the enteric defect with barbed suture.

0.7% of patients presented bleeding and 0.7% hemodynamic alterations during the intervention. Without documenting anastomotic leaks, stenosis or mortalities.

The surgical complication rate was less than 1%.

Conclusion:
In our experience, the use of barbed suture in bariatric surgery to build anastomosis and reinforce the suture line is safe with a low rate of complications and decreased surgical time. Current literature supports the use of barbed sutures in gastrojejunal anastomosis in a safe, efficient, and reproducible manner.

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Retrospective cohort study in SEQ of newly implemented non-endoscopic gastric balloon over a 6-month period

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Background:
Multiple non-surgical and surgical bariatric-metabolic management options currently exist when lifestyle changes alone have been suboptimal. The non-endoscopic Allurion gastric balloon (AGB) is relatively novel to Australia, with unique advantages of being minimally invasive and is available to patients with BMI>27, providing a safe, quick and non-permanent option that is more effective than lifestyle changes alone.

Objectives:
Assess total body weight loss (TBWL) in an Australian cohort from the first 6 months of a newly implemented AGB program. To collect demographic data on Australian patients seeking AGB over other options. To establish baseline data for future studies to compare any additional improvements made to the current program.

Methods:
Patients that underwent AGB at a specialised bariatric centre in Brisbane, Queensland between March to October 2023 were included. Patient characteristics; general demographics, co-morbidities, medications prior to treatment and post placement complications were gathered. Primary outcomes focused on TBWL at 4 months due to the lifespan of the balloon of that time period.

Results:
A total of 157 patients had AGB placed during the time period data. There were 119 (75.8%) female patients and 38 (24.2%) male patients with median age being 41 years. 28 patients did not have final weights recorded with 20 (12.7%) patients lost to follow-up. In remaining patients (n=129), median starting weight and BMI were 101.4kg and 36.1 respectively. After 4 months, median weight and BMI were 91.7kg and 31.6 respectively, accounting for mean 10.4% TBWL. 12 (7.6%) patients underwent early balloon removal, 6 (3.85%) had gastric outlet obstruction, 4 (2.5%) reported intolerance and one (0.6%) required surgical removal. AGB was well tolerated, with only 22 (14%) patients reporting symptoms of delayed gastric emptying. Almost half (47.7%) of patients trialled non-surgical methods prior to AGB.

Conclusion:
The preliminary data highlights AGB as a safe and effective non-surgical bariatric-metabolic intervention. Our TBWL is consistent with worldwide literature of 10-15% in 4 months albeit at the lower end of the range, although our population demographics may differ. Implementation of artificial intelligence coaching with in-application messaging has now been implemented with hopes to improve TBWL, patient engagement and follow up.

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Reverse antrectomy in vertical gastrectomy

Carla Marina Cruz Rocha, Carlos Eduardo Perez Tristan, Karla Elizabeth Rincon Souza, Perla Gonzalez Gutierrez, David Jacob Alvarez Chavez, Carlos Alfredo Bautista Lopez, Maria del Carmen Torres González, Luis Enrique Acosta Cumberbatch, Edwin Claros Canse
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Vertical gastroplasty has become a common technique in the treatment of obesity due to its apparent simplicity during its surgical execution, the present systematization aims demonstrate the technical ease of creating the gastric pouch, leaving the antrectomy for the end of surgery.

We recommend starting the first gramping frontally and vertically towards the angle of His, in this way we observe better ergonomics to avoid twists or narrowings in the most delicate sector, which is the incisura angularis. After the third staple, avoiding freeing the gastric fundus from its natural support in the splenic sector, we create a retrogastric tunnel to the bypass molds, in this way we prevent it from narrowing next to the esophagus since we apply the stapler under direct vision and we know that the region is highly dangerous for Hiss angle fistula.

Once this is done and with the correct positioning of the FOUCHET 32Fr probe in reverse, that is, retro-gastric, we apply the last gramping with a 60mm black load. as close as possible of the pylorus in this way we avoid leaving the antrum long and wide, as this worsens GER and weight recovery.

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Revision of OAGB for hypoalbuminemia and intractable diarrhoea

Mahak Bhandari, Manoj Kumar Reddy, Winni Mathur, Susmit Kosta, Mohit Bhandari
Mohak Bariatrics and Robotics

Introduction:
Bariatric and metabolic surgery is the best sustainable therapy for severe obesity and its comorbidities. There are various bariatric operations. OAGB, ranked the 4th most come bariatric surgery in the world, is characterized by a long narrow lesser curvature gastric pouch with a wide single anastomosis, a gastro-enterostomy, at a point on the jejunum at 150-350cm {Biliopancreatic Limb (BP)} from the DJ junction. The length of this BP limb has been shown to determine the incidence of complications after the OAGB, depending on the original total small bowel length and the length of the limb distal to the one anastomosis, gastro-enterostomy (the common Limb). The surgical treatment for this problem is shortening the BP limb length to increase the common limb length.

Objectives & methods:
A video is presented illustrating a step-by-step laparoscopic revision of an OAGB in a patient with hypoalbuminemia and intractable diarrhea by reducing the BP Limb length and lengthening the common limb length. The video has inserts of the endoscopic findings also.

Results:
The patient was found at surgery to have a BP limb of 180cm and a common limb only 200cm long. The gastro enterostomy was taken down and a new anastomosis was made at a point 50cm from the ligaments of Treitz. This left the patient with a BP limb 50cm long with a common limb of 330cm long. The Patient had an unremarkable recovery and her albumen raised to 2.89 g/dl at two-months post the revision surgery.

Conclusion:
Most patients are left with at least 300cm of a common limb after an OAGB operation and do not have hypoalbuminemia and/or intractable diarrhea. However, in patients with a short total bowel length, a commonly acceptable BP limb length may result in a short common limb like in this case and the patient will have problems with diarrhea and hypoalbuminemia. These types of cases are managed by altering the limb lengths of the patient by increasing the common channel to at least a minimum of 300cm at the expense of the biliopancreatic limb.

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Revisional roux-en-y gastric bypass after sleeve gastrectomy with transit bipartition – Case report and literature review

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Recurrent weight gain after sleeve gastrectomy is a challenging condition for bariatric surgeon. It can be managed by a revisional surgery. We reported a 37-year-old male initially presenting with class 2 obesity, 127 kg (BMI: 38.5). He received laparoscopic sleeve gastrectomy in 2019/09.

His body weight reduced to a minimum of 105 kg (BMI: 32.1) thereafter. Then he was lost to follow up for 3 years due to the COVID-19 pandemic. I

n 2022/09, he presented with recurrent weight gain to 134 kg (BMI: 40.9). Laparoscopic transit-bipartition was done with afferent limb length of 150 cm and biliopancreatic limb of 80 cm. However, limited effect was noted with a maximum weight reduction of 5 kg. After about one year observation, his weight remained 132 kg (BMI: 40.3).

Revisional Roux-en-Y gastric bypass (RYGB)with cholecystectomy was then offered and done in 2023/07. The total weight loss at one month after RYGB was 17 kg (12.9%), showing encouraging short-term outcome. We reviewed the related works of literatures, aiming to optimize the choice of revisional procedure.

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Revisional RYGB for treatment of GERD after sleeve gastrectomy in adequate (normal or near normal) BMI

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Prince Sultan Military Medical City

Background:
Laparoscopic sleeve gastrectomy (LSG) is the most frequently performed bariatric procedure today. There is an increasing number of long-term studies reported the occurrence of gastro-esophageal reflux disease (GERD) that is refractory to all none surgical treatment despite optimal weight loss after LSG.

Objectives:
The aim of this study was to evaluate revisional Roux-en-Y Gastric Bypass (RYGB) as treatment for GERD after LSG with optimal weight loss.

Methods:
This retrospective review of clinical data includes all 18 patients that were converted to RYGB due to GERD after LSG with adequate BMI at the time of revision. The mean interval between LSG and RYGB was 38.6 months. The follow-up after RYGB in this study was 26.2months. All the patients had preoperative gastroscopy, 24 hours pH-metry, manometry and barium swallow. The patients were asked to complete BAROS questionnaire.

Results:
Weight and BMI at the time of revision to RYGB were 77.4 kg and 24.9 kg/m2. 14 patients (77.8%) went into complete symptom free after RYGB. The other 4 patients had variable improvement with only two still need to take medicines (PPI). All patients had RYGB combined with hiatoplasty and did not need to repeat endoscopy during the period of follow-up. Patients scored 5.3 on average after revision from LSG to RYGB that indicated a very good outcome.

Conclusions:
Revisional RYGB with hiatoplasty is effective treatment for patients with GERD after LSG with optimal weight loss. Further studies with larger number of patients are necessary to confirm these findings

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Robotic conversion of sleeve gastrectomy with thoracic migration and GERD to roux-en-y gastric bypass: a case study

Randeep Wadhawan, Arun Bhardwaj

Introduction:
Sleeve Gastrectomy (SG) is a common bariatric procedure, but complications such as thoracic migration leading to Gastroesophageal Reflux Disease (GERD) can occur. Revisional surgery, particularly conversion to Roux-en-Y Gastric Bypass (RYGB), is often necessary. This case study highlights the efficacy of robotic-assisted conversion in managing such complications.

Objective:
This case study aims to showcase the utility and optimal clinical response of robotic surgery in converting SG with thoracic migration and GERD to RYGB, emphasizing the technique's ease and patient outcomes.

Methods:
The surgical technique utilized the Da Vinci robotic platform for precise dissection and repair. Conversion of SG to RYGB, along with crural repair, was performed seamlessly, ensuring optimal patient safety and efficacy.

Results:
A 36-year-old male patient, post-SG, presented with worsening GERD symptoms due to thoracic migration of the sleeve. Robotic conversion to RYGB was conducted in May 2023. The patient experienced significant relief, with discharge within 48 hours and sustained asymptomatic status at a 6-month follow-up.

Conclusion:
Intrathoracic migration of the sleeve poses a risk of GERD, necessitating revisional surgery in some cases. Robotic-assisted conversion to RYGB emerges as a safe and effective approach, offering enhanced precision, faster recovery, and improved patient outcomes in managing this challenging complication.

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Robotic sleeve gastrectomy in a lady affected by Severe Obesity with decompensated cirrhosis and portal hypertension

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Background:
With the unabated pandemic of obesity there is an increasing number of patients with metabolic-associated-fatty-liver-disease (MAFLD) and liver-cirrhosis needing metabolic and bariatric surgery (MBS). This case demonstrates the technique of robotic sleeve gastrectomy (SG) and the peri-operative challenges, in a patient with severe obesity, liver-cirrhosis and portal hypertension (PHTN).

Clinical case:
A 53-year-lady with a body mass index (BMI) of 63.9 kg/m^2 presented to the emergency department with massive hematemesis. After resuscitation, upper gastro-intestinal endoscopy (UGIE) revealed 3-columns of grade-2 esophageal varices and large bleeding fundal varices, which were managed by endoscopic n-butyl-cyanoacrylate glue injection. At index-presentation the patient had a low serum albumin of 2.6g/dL and INR of 1.8 (Child-Pugh class-B cirrhosis). She also had severe obstructive-sleep-apnoea (OSA) with a STOPBANG score of 6. She was started on home-based continuous positive airway pressure (CPAP) , titrated according to polysomnography report. After three-days of hospital admission and stabilization the patient was discharged home on very low-calorie liquid diet. Three-months after the index episode the patient had lost 6kg weight, her liver function test (LFT) had normalized (was now in Child-Pugh class A) with pre-operative transient elastography (TE) value of CAP: 375 dB/m and LSM: 17kPa. CECT abdomen showed a cirrhotic liver with dilated portal vein of 14mm. There was a glue-cast noted in the gastric fundus close to the gastro-esophageal junction. A repeat UGIE showed 3-columns of grade-2 esophageal varices and obliterated gastric varices with a glue-cast in the gastric fundus. She underwent robotic SG using four 8-mm ports and one 10-mm assistant port. The patient was started on oral liquids from POD1. The drain was removed and patient was discharged home on POD 3. Post-operatively she had normal LFTs. At 6-months follow-up, the patient has lost 34-kg weight, her OSA has improved with a STOPBANG score of 3. Her TE value at 6-month follow-up has improved to a CAP of 290 and LSM of 13.8 kPa.

Conclusion:
This case vignette demonstrates the importance, safety and efficacy of MBS in patients affected by obesity with liver-cirrhosis and PHTN.

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Robotic-assisted conversion of Vertical Banded Gastroplasty to Roux-en-Y Gastric Bypass with concurrent Hiatal Hernia Repair

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
The case involves a 49-year-old female with a current Body Mass Index (BMI) of 39 and a complex medical history. Presenting with persistent vomiting and reflux symptoms for the past two years, hypertension, Coronary Artery Disease, Gastroesophageal Reflux Disease (GERD), and Major Depressive Disorder. The patient has undergone prior surgical interventions, including Vertical Banded Gastroplasty in 1998, Abdominoplasty in 1999, and Cholecystectomy in 2005.

Objectives:
This case aims to address the persistent vomiting and reflux symptoms in a patient with a history of Vertical Banded Gastroplasty. The primary objectives are to investigate and document the anatomical anomalies identified through diagnostic procedures (Esophagram and Upper Gastrointestinal Endoscopy) and to elucidate the rationale and outcomes of the planned Vertical Banded Gastroplasty conversion to Roux-en-Y Gastric Bypass along with Hiatal Hernia Repair.

Methods:
The patient's medical history, presenting symptoms, and prior surgeries are outlined. Diagnostic procedures, including Esophagram and Upper Gastrointestinal Endoscopy, are detailed to provide insights into the anatomical considerations. The planned surgical approach, encompassing Vertical Banded Gastroplasty conversion to Roux-en-Y Gastric Bypass and Hiatal Hernia Repair, is highlighted.

Results:
The preoperative Esophagram reveals a portion of the gastric lumen cephalad to the gastric band, measuring approximately 8 cm, along with a patulous esophagogastric junction and GERD while recumbent. The Esophagogastroduodenoscopy (EGD) identifies Los Angeles grade A reflux esophagitis, a patent vertical banded gastroplasty with a 10 cm pouch, and an intact staple line. The band appears tight, and the pouch is large and dilated, retroflexing easily, concluding with a Hill Grade III Gastroesophageal flap valve.

Conclusion:
In light of the diagnostic findings, the surgical plan is to perform a Vertical Banded Gastroplasty conversion to Roux-en-Y Gastric Bypass, coupled with Hiatal Hernia Repair. This approach aims to address the patient's persistent vomiting and reflux symptoms while considering the anatomical intricacies discovered during the preoperative work-up. The case underscores the importance of tailored interventions in patients with complex bariatric histories, emphasizing the need for a comprehensive understanding of individual anatomical variations for optimal surgical planning and outcomes.

ePoster

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Robotic-assisted duodenal switch for a patient with a BMI of 65 and multiple comorbidities

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case revolves around a 30-year-old female patient with a BMI of 65 and concomitant comorbidities including GERD, obstructive sleep apnea, prediabetes, and hypertension. Importantly, the patient has a history of Cesarean Section in 2017. The consultation was prompted by the elevated BMI and associated comorbidities, leading to a recommendation for a one-month preoperative liquid diet and an upper GI endoscopy. The preoperative upper GI endoscopy revealed normal findings, with negative H. Pylori immunohistochemistry results.

Objectives:
The primary objectives of this study are to address the elevated BMI and associated comorbidities. The chosen surgical approach is to perform a Duodenal Switch.

Methods:
Preoperative measures involved a one-month liquid diet regimen and upper GI endoscopy to evaluate the patient's condition. The Duodenal Switch procedure was performed without any perioperative complications.

Results:
Postoperative follow-up included meticulous BMI recordings at various intervals. The patient's BMI showed a significant reduction from 65 at the time of surgery to 48 at 1-month postoperative, 44 at 3 months, and 41 at 6 months. In addition, the patient reported high satisfaction, indicating substantial improvements in overall quality of life.

Conclusion:
This case underscores the efficacy of the Duodenal Switch procedure in achieving successful outcomes in a 30-year-old female patient with severe obesity and multiple comorbidities. The notable reduction in BMI observed during postoperative follow-up, coupled with the absence of perioperative complications and the patient's high satisfaction, highlights the effectiveness of this surgical intervention in improving both weight management and overall quality of life.

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Robotic-assisted Gastro-gastric fistula and Hiatal Hernia repair after Roux-en-Y Gastric Bypass

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case revolves around a 64-year-old patient presenting with a current BMI of 34.3 and coexisting medical conditions, including hypertension, hyperlipidemia, and Raynaud's disease. The patient has a previous surgical history of conventional Roux-en-Y gastric bypass conducted in 2000 at a different medical institution.

Objectives:
The primary objectives are directed toward mitigating the patient's presenting symptoms, encompassing epigastric pain, severe reflux, and esophageal spasms. The strategic focus lies in devising a surgical plan to address the identified issues, notably the gastro-gastric fistula between the pouch and the gastric remnant, alongside the hiatal hernia.

Methods:
A thorough diagnostic assessment, including an esophagram, was undertaken to discern the extent of the anatomical concerns. Preoperative esophagram findings revealed the existence of a gastro-gastric fistula and a hiatal hernia. The formulated surgical strategy involves a meticulous plan encompassing hiatal hernia repair and gastro-gastric fistula repair post-Roux-en-Y Gastric Bypass.

Results:
Postoperative evaluation indicates a successful resolution of symptoms, with the patient reporting subsided epigastric pain, reduced reflux, and alleviation of esophageal spasms. The patient expressed satisfaction with the surgical results, signifying an improvement in the overall gastrointestinal symptoms and quality of life.

Conclusion:
In response to this intricate clinical case marked by a previous surgical history of conventional Roux-en-Y gastric bypass and symptomatic challenges, the implemented surgical approach involving hiatal hernia repair and gastro-gastric fistula repair has yielded positive outcomes. This comprehensive strategy effectively addressed the identified anatomical intricacies and has yielded favorable outcomes, resulting in symptom resolution and overall patient satisfaction with the surgical results.

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Robotic-assisted gastrojejunal anastomosis re-do, hiatal hernia repair, and vagotomy for GERD in a patient with a history of bariatric surgeries

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
Gastroesophageal reflux disease (GERD) is a prevalent condition characterized by the regurgitation of stomach contents into the esophagus, often causing discomfort and complications. Patients with a history of bariatric surgeries, such as Gastric Sleeve, may experience GERD-related issues, prompting the need for additional interventions. This case centers on a 54-year-old patient who underwent Gastric Sleeve surgery in 2018 at another institution, subsequently requiring conversion to Roux-en-Y Bypass in 2021 due to exacerbated GERD symptoms.

Objectives:
The primary objective of this case study is to document and analyze the medical history, presenting symptoms, and the subsequent surgical interventions performed on the patient. Specifically, the focus is on the clinical indications for the conversion surgery, the findings from preoperative diagnostic tests (esophagram and upper GI endoscopy), and the intraoperative observations during the planned Gastrojejunal anastomosis Re-do, Hiatal Hernia Repair, and Truncal vagotomy.

Methods:
The patient's medical history, including the initial Gastric Sleeve surgery and the subsequent conversion to Roux-en-Y Bypass, is outlined. The presenting symptoms leading to the ER admission in March 2022 are detailed. Preoperative diagnostic tests, including the esophagram and upper GI endoscopy, are discussed. The surgical plan, encompassing Gastrojejunal anastomosis Re-do, Hiatal Hernia Repair, and Truncal vagotomy, is highlighted. An intraoperative Upper GI endoscopy is performed to assess the status of the Gastrojejunal anastomosis and gastric pouch.

Results:
The preoperative esophagram indicates a moderate sliding hiatal hernia with an otherwise normal esophagus. The upper GI endoscopy reveals a 5 cm hiatal hernia, grade C esophagitis, and a small gastric pouch from the previous Roux-en-Y Bypass. The intraoperative Upper GI endoscopy confirms a functional Gastrojejunal anastomosis but notes a very small gastric pouch, precluding the option of partial gastrectomy due to ischemic risk.

Conclusion:
In light of the intraoperative findings, the surgical team opted against a partial gastrectomy due to concerns about pouch ischemia and the need for esophagojejunostomy. This case underscores the complexity of managing GERD in patients with a history of bariatric surgeries, highlighting the challenges and decision-making processes involved in addressing anatomical anomalies, such as a small gastric pouch, during revision procedures.

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Robotic-assisted hiatal hernia repair with conversion from sleeve gastrectomy to Roux-en-Y gastric gypass

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case revolves around a 73-year-old patient, presenting with a current BMI of 30.23 and underlying comorbidities including hypertension and hyperlipidemia. Having undergone a Sleeve Gastrectomy in 2018, the patient sought consultation due to severe gastroesophageal reflux and regurgitation, unresponsive to Proton Pump Inhibitor (PPI) therapy. To comprehensively assess the condition, an Esophagram, Upper GI endoscopy, and an EGD Bravo study were conducted.

Objectives:
The primary objectives are to address the challenging Gastroesophageal reflux and regurgitation after Sleeve gastrectomy and explore potential solutions through surgical intervention. Specifically, the focus is on conducting a Hiatal Hernia Repair with the conversion from Sleeve Gastrectomy to Roux-en-Y Gastric Bypass. The objectives encompass alleviating reflux symptoms, managing the small sliding hiatal hernia, and evaluating the potential benefits of surgical conversion for enhanced long-term outcomes.

Methods:
Detailed demographic information, comorbidities, and surgical history of the patient are documented. The comprehensive diagnostic work-up involves an Esophagram, Upper GI endoscopy, and an EGD Bravo study. Findings from these examinations, including the small sliding hiatal hernia, ineffective esophageal motility, and a DeMeester score indicating increased esophageal acid exposure, inform the decision-making process for the surgical plan.

Results:
The preoperative Esophagram reveals a small sliding hiatal hernia with spontaneous reflux to the thoracic inlet and ineffective esophageal motility. The Upper GI endoscopy reports a normal esophagus and a Sleeve Gastrectomy characterized by healthy appearing mucosa. The EGD Bravo study shows a DeMeester score of 33.4, indicating heightened esophageal acid exposure. These results collectively contribute to the formulation of the surgical plan.

Conclusion:
In response to this patient's severe gastroesophageal reflux and regurgitation unresponsive to Proton Pump Inhibitor (PPI) therapy, the proposed surgical approach, is anticipated to address both anatomical and functional concerns. The comprehensive strategy aims to alleviate symptoms, and manage the identified small sliding hiatal hernia. During the postoperative follow-up the patient reported significant alleviation of symptoms, highlighting the effectiveness of the comprehensive surgical approach in addressing severe gastroesophageal reflux and regurgitation and emphasizing its potential as a viable therapeutic strategy for managing GERD after Sleeve gastrectomy in the elderly demographic.

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Robotic-assisted Nissen fundoplication takedown, recurrent hiatal hernia repair and gastrojejunostomy with Roux-en-y reconstruction.

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case centers on a 70-year-old patient with a current Body Mass Index (BMI) of 35 and a medical history including Scleroderma, diabetes, hypertension, hyperlipidemia, obstructive sleep apnea, and GERD. The patient underwent two previous Nissen Fundoplications in 2018 and 2020, as well as a Hiatal hernia repair in 2020, all performed at another institution. Presenting with dysphagia, reflux, and vomiting, the diagnostic focus was an esophagram.

Objectives:
The primary objectives aim to address the patient's symptoms and complications related to the prior Nissen Fundoplications and Hiatal hernia repair. The surgical plan includes Nissen fundoplication takedown, hiatal hernia repair, and gastrojejunostomy with Roux-en-Y reconstruction.

Methods:
The patient's detailed medical history, including prior surgeries, is documented. The diagnostic work-up involves an esophagram, which reveals postoperative changes of fundoplication, a small hiatal hernia, and partial slippage of the fundoplication above the diaphragm, along with gastroesophageal reflux to the mid thoracic esophagus while recumbent. The outlined method includes Nissen fundoplication takedown, hiatal hernia repair, and gastrojejunostomy with Roux-en-Y reconstruction.

Results:
The postoperative esophagram reports prompt contrast passage through the esophagogastric junction into the gastric pouch. Brisk emptying through the patent gastrojejunostomy is observed, with no extraluminal contrast, and the small bowel exhibits normal lumen caliber and fold thickness.

Conclusion:
In response to the patient's presentation of dysphagia, reflux, and vomiting post two Nissen Fundoplications and a Hiatal hernia repair, the executed surgical approach involving Nissen fundoplication takedown, hiatal hernia repair, and gastrojejunostomy with Roux-en-Y reconstruction demonstrates favorable postoperative results. The esophagram findings confirm the functionality of the reconstructed gastrojejunostomy and the absence of extraluminal contrast, affirming the optimal clinical response of the intervention.

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Robotic-assisted re-do gastrojejunostomy and truncal vagotomy in a patient with marginal ulcers

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case involves a 61-year-old patient presenting with a BMI of 38.8 and a complex medical history encompassing diabetes, hypertensive heart disease, paroxysmal atrial fibrillation, hypothyroidism, chronic gastric ulcer, and GERD. Notably, the patient underwent Roux-en-Y Gastric Bypass in 2017 and Laparoscopic Graham Patch repair of a perforated ulcer in 2020, with both procedures conducted at another medical institution. The patient sought consultation due to symptoms of abdominal pain, nausea, vomiting, and reflux, prompting a comprehensive diagnostic work-up comprising an Esophagram and an Upper GI Endoscopy.

Objectives:
The primary objectives are centered on addressing the presenting symptoms and underlying complications in this patient. The focus is on formulating a surgical plan to rectify the observed issues, specifically targeting the persistent marginal ulcers along the jejunal side of the Gastrojejunal Anastomosis (GJA). The objectives encompass performing a re-do Gastrojejunostomy with excision of the previous Gastrojejunostomy and truncal vagotomy.

Methods:
The patient's detailed medical history, including previous surgical procedures, is thoroughly documented. The diagnostic work-up involves an Esophagram and an Upper GI Endoscopy. Findings from these examinations, such as the normal swallow, thoracic esophageal lumen caliber, and distensibility, as well as the characteristics of the Gastric Bypass and Gastrojejunal Anastomosis, guide the formulation of the surgical plan. The outlined method involves a re-do Gastrojejunostomy with excision of the previous Gastrojejunostomy and truncal vagotomy.

Results:
The preoperative Esophagram indicates normal swallow function and thoracic esophageal characteristics. The Upper GI Endoscopy reveals a Gastric Bypass with specific features, including a 7 cm pouch length and intact staple line. However, two persistent marginal ulcers are identified along the jejunal side of the Gastrojejunal Anastomosis. Gastric biopsy results shows no intestinal metaplasia, and H. pylori negative.

Conclusion:
In response to this complex case presentation characterized by abdominal pain, nausea, vomiting, and reflux, the proposed surgical approach involves a re-do Gastrojejunostomy with excision of the previous Gastrojejunostomy and truncal vagotomy. This strategic intervention aims to address the observed persistent marginal ulcers and optimize the gastric bypass configuration. The comprehensive plan seeks to alleviate symptoms and and foster a healthier gastrointestinal state for the patient.

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Robotic-assisted Roux-en-Y gastric bypass and small bowel diverticulectomy with paraesophageal hernia repair

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case involves a 65-year-old male with a current Body Mass Index (BMI) of 42 and a spectrum of comorbidities, including Obstructive Sleep Apnea, Diabetes, Hypertension, Gastroesophageal Reflux Disease (GERD), hyperlipidemia, and Non-Alcoholic Fatty Liver Disease. The patient has no significant prior surgical history. The individual's medical profile reflects a prolonged struggle with medically complicated obesity, marked by persistent recidivism in response to traditional weight loss approaches involving diet and exercise.

Objectives:
The primary objective of this case is to address the longstanding challenges of medically complicated obesity in the presented patient. Focusing on the comorbidities, particularly the 10 cm hiatal hernia identified in the preoperative Upper Gastrointestinal Endoscopy, the aim is to outline the surgical strategy involving Paraesophageal Hernia Repair and Roux-en-Y Gastric Bypass. This intervention is geared towards not only achieving substantial weight loss but also addressing the associated medical complexities and improving the patient's overall health and quality of life.

Methods:
The patient's demographic details, comorbidities, and relevant medical history are documented. The decision-making process leading to the choice of surgical intervention is explored. The work-up involves an Upper Gastrointestinal Endoscopy, with specific attention to the identification of a sizable hiatal hernia and the assessment of esophageal and stomach mucosa.

Results:
The preoperative Upper Gastrointestinal Endoscopy reveals a substantial 10 cm hiatal hernia alongside normal esophageal and stomach mucosa. This finding, combined with the patient's challenging medical history, forms the basis for the planned surgical approach. The chosen strategy involves Paraesophageal Hernia Repair and Roux-en-Y Gastric Bypass.

Conclusion:
In addressing the complex interplay of medically complicated obesity and associated comorbidities in a 65-year-old male with a BMI of 42, the surgical plan of Paraesophageal Hernia Repair and Roux-en-Y Gastric Bypass emerges as a comprehensive solution. This case underscores the importance of tailored surgical interventions in individuals with a history of obesity-related complications, aiming not only for weight loss but also for the effective management of concurrent health issues. The anticipated outcomes of this approach include improved overall health and an enhanced quality of life for the patient.

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Robotic-assisted Single Anastomosis Duodeno-Ileal bypass with sleeve gastrectomy (SADI-s) in a patient with a BMI of 68

Lorna Astrid Evans, Jorge Cornejo, Enrique Fernando Elli
Mayo Clinic

Background:
This case centers on a 36-year-old male patient with a current BMI of 68, burdened by a spectrum of comorbidities including diabetes, hypertension, obstructive sleep apnea, hyperlipidemia, fatty liver disease, and gastroesophageal reflux disease. Importantly, the patient lacks any previous surgical history. Seeking consultation due to the conjunction of a BMI of 68 and multiple associated comorbidities, the recommended course of action included preoperative weight loss, involving a one-month liquid diet.

Objectives:
The primary objectives entail addressing the complex health challenges posed by the patient's severe obesity and associated comorbidities. The focus is on implementing a preoperative weight loss strategy, aiming to optimize the patient's condition for subsequent surgical intervention. The broader objectives involve documenting the postoperative outcomes, particularly changes in BMI over a four-month period, and assessing the impact on the patient's overall quality of life.

Methods: The patient's detailed demographic information, current health status, and comorbidities are documented. The prescribed preoperative weight loss intervention, involving a one-month liquid diet, is outlined. Postoperative follow-up involves monitoring the patient's BMI at specific intervals: the first month, the second month, and the fourth month. A meticulous examination of these recorded BMI values provides insights into the effectiveness of the weight loss strategy and the subsequent impact on the patient's health.

Results:
Postoperative follow-up data reveal a notable reduction in BMI, reflecting the optimal clinical response of the preoperative weight loss strategy. In the first month, the patient's BMI decreased to 61, followed by a further reduction to 56 in the second month, and a subsequent decrease to 53 in the fourth month. Significantly, there were no postoperative complications noted, and the patient reported a high level of satisfaction with the improvement in the quality of life.

Conclusion:
The comprehensive management of severe obesity and associated comorbidities in this patient showcased promising results. The sequential postoperative BMI recordings at one, two, and four months demonstrated a consistent downward trend, emphasizing the sustained optimal clinical response of the intervention. Importantly, the absence of postoperative complications and the reported enhancement in the patient's quality of life underscore the positive outcomes of the implemented therapeutic approach.

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Role of the nurse practitioner integrated gi/bariatric health practice

Jane Diamond
Mayo Clinic

Background:
Bariatric services in a silo often fail to meet the psychological, dietary, physical, trauma-effect, and daily health needs of most patients. Nurse practioners, given their close and continuing contact with patients with obesity, are first line detectors and providers of whole support.

Objective:
To provide attendees with real-world guidelines and integrated comprehensive modalities developed at our gastroenterology obesity center. To maximize patient comfort, pre-procedure protocol adherence, managing mental health and trauma-related barries, behavioural health therapy, provisions of multi-modality integrated care, and post-procedure contact and continued cared to maximize both physical and mental optimal clinical response.

Methods:
Nurse Practitioner focuses practice on wide-ranging and personal interactive discussions with each patient to evaluate the optimal balance of various modalities from psychiatric/psychological assistance, acupuncture, gut health, diet, micro biomes, health coach, physical and rehabilitative services.

Results:
Nurse practitioner reviewed and consolidated for trends GI/bariatric patients' optimal clinical response rates utilizing integrated approach.

Conclusion:
Patients with obesity have far higher long-term sucess rates with multiple markers both from sustain optimal weight, improving overall health and nutrition as well mental health related to disordered eating by uising integrated approach and assistance of an optimal nurse practitioner/patient relationship.

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Roux-En-Y gastric bypass in a transgender patient: single centre experience and implications for the future

Rahul Menon, Phil Lockie
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Background:
The frequency of transgender individuals seeking gender affirming care is increasing over the last decade. Across the transgender population, obesity and psychosocial risk factors are elevated compared to the general population. For populations experiencing obesity and its metabolic complications, bariatric surgery remains the only long-lasting and effective weight-loss option. Metabolic side-effects from hormonal therapy in transgender patients are important considerations in pre- and postoperative care. There is a paucity of research on the effect of bariatric surgery on transgender individuals as well as the effect of hormonal therapies on the effectiveness of surgery.

Objective:

- To observe the effect of a RYGB on a male-to-female transgender patient
- Explore the implications of hormonal therapy on weight management
- Examine the pre- and postoperative multidisciplinary care in bariatric surgery

Methods:
A 54-year-old male-to-female (MTF) transition patient presented with Class III obesity, hyperlipidaemia, and ongoing weight gain. She had undergone gender-reassignment surgery and is enrolled in hormonal therapy. After multidisciplinary preoperative assessment, she received a Roux-en-Y Gastric Bypass (RYGB).

Results:
The patient experienced 49% EWL, achieved a BMI of 34 kg/m^2 (from 40 kg/m^2 preoperatively). She reported improved body satisfaction, metabolic parameters and completed further plastic surgery. The RYGB is an effective method for weight loss but also achieves mortality benefits from cardiovascular and metabolic disease and psychosocial wellbeing. Transgender patients, especially those receiving hormonal therapy are more at risk from weight gain but also from psychiatric conditions such as depression anxiety and eating disorders. The use of hormonal therapy has undesirable medical side effects, notably, weight gain and secondary sexual characteristics. Holistic treatment in conjunction with dietetic and psychology services can help maintain long-term weight management.

Conclusion:
Bariatric surgery is becoming more common in transgender individuals and is a proven, effective method for weight loss and metabolic parameter improvement. The use of hormone therapy can affect post-surgical weight loss and associated metabolic conditions. Careful evaluation with a collaborative multidisciplinary care team considering psychosocial risk factors and hormonal profiles is integral to achieving and maintaining weight loss and gender identity. Postoperative nutritional and psychological treatment is integral to maintaining healthy lifestyles and preventing suboptimal clinical response.

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SADI-S Initial experience in Chile

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Clinica Las Condes

Background:
In 2007, Sánchez Pernaute and collaborators published a surgical alternative called duodeno-ileal bypass with vertical gastrectomy or Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI-S). This was described as a technical solution to simplify a complex surgical technique, the duodenal switch, transforming it into a restrictive and derivative procedure, highly useful in patients with severe obesity (BMI > 50) or poorly controlled Diabetes Mellitus.

Objective:
To evaluate the safety of SADI-S surgery, its metabolic and anthropometric effects, in patients with high BMI, undergoing the procedure at Clinica Las Condes, Santiago between 2019-2023.

Methods:
Retrospective, descriptive, single-center, study on patients operated with the SADI-S technique in the Bariatric Surgery Unit of Clinica Las Condes between 2019-2023, with at least 1 year of post-surgery follow-up.

Results:
Of a total n=24, at 1-year follow-up: 14 patients (58%), Female: 8 (57%), Male: 6 (43%), Average BMI (50.5 kg/m2), %TWL 41%, %EWL 84%, remission of comorbidities: T2 DM (80%), HTN (75%), Hyperlipidemia (100%), Dyslipidemia (80%), Complications: 4,2%, one patient with an anastomotic leak resolved.

Conclusions:
SADI-S is a safe and effective procedure in high BMI patients. Its weight loss and metabolic benefits outperforms other derivative techniques, such as gastric bypass, with superior resolution of comorbidities. A larger number of patients and longer follow up is needed.

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Safety and efficacy of metabolic and bariatric surgery for Japanese patients aged 60-65 years with severe obesity

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Background:
The IFSO/APMBSS guideline expanded the metabolic and bariatric surgery indications for elderly patients over 70. However, in Japan, evidence is lacking for Japanese patients, as surgical treatment has been limited to those younger than 66. We analyzed the efficacy and safety of Metabolic Bariatric Surgery in patients aged 60-65, an age group close to the elderly.

Methods:
We retrospectively analyzed 31 patients who underwent laparoscopic sleeve gastrectomy (LSG) and 11 patients aged 60-65 who underwent laparoscopic sleeve bypass (LSG-DJB) at our center between May 2011 and December 2020.

Results:
(Data are shown as results in the LSG group/the LSG-DJB group, respectively.)
The mean BMI was 37.2/36.7, the mean operative time was 126/212 minutes, the mean blood loss was 11/22 g, and themean postoperative hospital stay was 2.9/3.5 days. Postoperative complications included one case of postoperative gastrointestinal bleeding and no perioperative deaths. The excess weight loss rate one year postoperatively was 80/102%. Comorbidity remission rates were 73/40% for diabetes, 42/55% for hypertension, and 30/50% for hyperlipidemia. No patients showed an appendicular skeletal muscle index below the threshold for sarcopenia. No patient presented with hypoalbuminemia.

Conclusion:
LSG and LSG-DJB for Japanese patients affected by severe obesity aged 60-65 years were safely performed and effective for obesity-related diseases. Expansion of the indication to patients older than 65 years should be considered.

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Safety management for metabolic surgery by certified clinical engineer in Japan

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Background:
Certified Clinical Engineers (CEs) in Japan have a job description that is rare internationally. Starting from the maintenance and inspection of medical equipment, CEs provide training for its introduction and safe use, as well as operation and treatment in the clinical settings. The job description is like a combination of Biomedical Equipment Technician, Clinical Engineer, and other certified technicians in the United States. The role of scope operator became certified nationally in 2021.

Objective:
Surgery for patients with severe obesity with many comorbidities is a high-risk procedure, so, to ensure safe surgery and discharge from the hospital, it is useful to formulate and address various issues as part of risk management. In this context, we report on how the comprehensive efforts taken by our CEs contribute to patient safety.

Method:
Prior to surgery, anesthesia machines are checked first, and other medical equipment, such as laparoscopic systems and electrocautery settings are prepared. Together with other staff members in the OR, we check the patient's position. Once the surgery begins, external medical equipment is ensured to work properly. We started the role of scope operator in 2022. Now we instruct residents how to manipulate scopes. We also proactively collaborate with nurses and surgeons to contribute to the smooth progress of surgeries. Following surgery, we set up and confirm that the Nasal High Flow system is working properly as per doctor’s order.

Result:
Since we began to be involved in safety management for metabolic surgery, we have experienced more than 200 operations. By using fixed personnel, procedure times have been significantly shortened and no significant difference in blood loss, so the surgeries are being performed safely. We believe that the shortened operation time is a particularly significant contribution to surgery on these patients.

Conclusion:
CEs contribute to medical safety from different perspectives from other medical staff by being involved with patients consistently from preoperative to postoperative periods. We hope to continue contributing to the treatment of these patients by taking advantage of our characteristics of working as specialists in medical devices.

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Sarcopenia in adult patients candidates for bariatric surgery: how frequent is it?

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Background:
Recently, the term Sarcopenic Obesity has been introduced, which implies a decrease in skeletal muscle mass with a high percentage of body fat. However, this relationship has not been fully characterized in patients candidates for bariatric surgery.

Objectives:
Describe the rates of sarcopenic obesity in patients over 45 years of age scheduled for bariatric surgery through the use of electrical impedanciometry tool for the analysis of body composition.

Methods:
A single center cross-sectional study was carried out with retrospective analysis of a prospective collection database that includes the analysis of body composition (using electrical impedanciometry) in patients of both sexes over 45 years of age who were candidates for bariatric surgery obtained during their pre-surgical assessment. Sarcopenia was determined using the Appendicular mass index (ALIM), where a value lower than 5.5 in women and 7.0 in men was diagnostic. Only Gastric sleeve, Roux-en-Y gastric bypass and One anastomosis gastric bypass were included.

Results:
A sample of 248 patients was evaluated, with an average age of 50.9 years, majority female (79%), average weight 101.5kg, with BMI of 39 kg/m2, average body fat % of 48.9%, and ALIM out of 8. Although all patients presented obesity, only 1 female patient presented sarcopenia.

Conclusion:
In this series, interestingly a low rate of sarcopenic obesity was observed, contrary to what would be expected in these age groups. The introduction of body analysis in the preoperative workout and follow-up of patients undergoing bariatric surgery seems to be an important diagnostic tool, however, larger population studies are required to evaluate the incidence and prevalence of sarcopenic obesity, since this information may open new horizons in bariatric surgery.

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Secondary hyperparathyroidism after bariatric surgery

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Background:
Bariatric surgery is an effective and durable treatment for obesity. However, it may result in abnormalities of calcium metabolism, including secondary hyperparathyroidism (SHPT), which may lead to detrimental effects on bone integrity including osteoporosis.

Objectives:
This study aims to assess the prevalence of SHPT and its association with other blood biomarkers, specifically, calcium (Ca) and vitamin D pre- and post-bariatric surgery using real world clinical data.

Methods:
We reviewed retrospectively the medical records of patients who underwent bariatric surgery (sleeve gastrectomy (SG), single loop and roux-en-y bypass) at our institution from 2019 to 2022 who had at least one PTH reading before or after surgery. Patient demographics, serum calcium, Vitamin D and PTH were followed. PTH levels were considered high when exceeding the reference range provided by the pathology company where the testing was conducted.

Results:
There were 61 patients, mean age 51 ± 10.6 years, 78.7 % female and average baseline BMI was 50.79±10.38 kg/m^2. Average percentage weight loss at one and three years was 26.2±8.3 and 22.9±13.8 respectively. SG was performed in 68.8 % and bypass in 31.2%. The prevalence of high PTH preoperatively was 25% (5/20), 21.6% (8/37) after 12 months and 40% (8/20) after 3 years. Vitamin D deficiency (<50 nmol/L) was identified in 31.5% (6/19) patients preoperatively with mean 64.4 nmol/L. One year post-surgery, vitamin D deficiency decreased to 20% and at three years only 10% of the cohort had a low level. Serum calcium levels remained normal (pre-op 2.38 ± 0.04, 1 yr 2.33 ± 0.05, 3 yr 2.40 ± 0.08 mmol/L).

Conclusion:
The prevalence of SHPT appears to progressively increase after surgery. Despite regular follow-up with emphasis on maintaining a high dietary calcium intake with the recommendation to include calcium citrate if PTH levels increase, there was persistent SHPT. Collaboration with general practitioners for ongoing monitoring of these biomarkers and reinforcement of the importance of dietary calcium and supplementation is important for long-term patient bone health post-bariatric surgery.

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Short-term operative outcomes and safety of three-port laparoscopic sleeve gastrectomy in 2,000 cases

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Introduction:
Laparoscopic sleeve gastrectomy (LSG) is a common bariatric surgery, traditionally performed with five ports. However, a modified technique using only three ports has been developed to reduce surgical trauma and improve cosmesis with safety.

Materials and Methods:
Between December 2020 and December 2023, a single surgeon in one hospital performed 2,000 cases of three-port LSG. Operative outcomes were noted.

Results:
The mean operative time was 44.20 minutes, with a mean blood loss of 10.33 ml. Mean length of stay following LSG was 3.1 days. One-year %Excess Weight Loss (%EWL) is 78.14. Diabetes remission is 81.6%. There were no cases of conversion to open surgery. Five cases required the addition of a fourth port due to technical difficulty. Two cases had bleeding requiring reoperation, and four cases had leakage. Six cases had portomesenteric venous thrombosis. No case had surgical wound infection.

Conclusion:
The three-port LSG technique is feasible and safe, and may be considered an alternative for patients seeking better cosmesis. However, it requires a high level of technical skill and experience.

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Simplified bypass, a new systemisation

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Hospital Civil De Guadalajara Dr. Juan I. Menchaca

Gastric Bypass is a highly known technique and in this work We show a different systematization where we first do the entire gramping routine allowing a better understanding by the young surgeon or resident for subsequent closure of gaps and Petersen Space in two planes. This facilitates better ergonomics of the technique and reduction of surgical time.

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Single anastomosis duodeno-ileal bypass with gastric plication (SADI-P) for managing weight recurrence after greater curvature plication (LGCP)

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Background:
Laparoscopic greater curvature plication (LGCP) is an effective bariatric procedure but may be accompanied by increased rates of recurrent weight gain, which may warrant bariatric reoperation. We hereby present our initial experience with single-anastomosis duodeno-ileal bypass post-LGCP, with preservation of the plication (SADI-P).

Methods:
We collected data from SADI-P patients over the course of 2 years. Among the inclusion criteria, there should be evidence of no or minimal unfolding of the plicated stomach and the fluoroscopically calculated gastric volume should be ≤300mL (intact plication) or ≤400mL (minimally un-plicated stomach). The main differences between our technique and the original SADI-S are i) use of a 36Fr bougie (instead of 54Fr); ii) preservation (or reinforcement) of the greater curvature plication instead of performing a sleeve gastrectomy; and iii) tailoring of the common channel according to the pre-surgery BMI (250cm for BMI<45Kg/m^2 and 200cm for BMI≥45Kg/m^2).

Results:
During the study period, 9 patients (all female) underwent SADI-P. The mean maximum %EWL after the index LGCP was 82.8% (68.7-95.8), whereas the mean increase in BMI after maximum weight loss was 14.8Kg/m^2 (9.8-17.8). The mean interval between LGCP and SADI-P was 97.3 months (49-133). The mean pre-SADI-P weight was 121.1Kg and BMI was 42.0Kg/m^2. No complications were documented postoperatively. The mean %TWL was 20.0% over a mean follow-up period of 6.8 months (0-23).

Conclusion:
SADI-P seems feasible, safe, and effective for patients post-LGCP with recurrent weight gain and preserved (or minimally disrupted) plication. Larger patient lumes and longer follow-up periods are mandatory to validate these results.

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Single port concomitant hernia repair and bariatric surgery.

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King Abdullah Medical City

Hernia is prevalent during bariatric surgery and there is no agreement on the preferred time of repair, for many reasons. There is a good shift now towards single stage bariatric surgery and hernia repair, and the concept is gaining popularity in the bariatric community. We present to you our technique using single incision to combine bariatric surgery and hernia repair, so far its showing equivalent weight loss to conventional method, less complications and better patients satisfaction.

- Disclosure
  none

- Clinical presentation and indication for surgery
  56 years old female, Dm umbilical hernia with divarication of recti, BMI 40

- Postoperative outcomes
  Pts is doing good with no complication 2 months post surgery

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Single port sleeve gastrectomy plus cholecystectomy

Jason Widjaja, Yan Gu, Jianjun Yang, Wenpei Dong
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Background:
Single-port laparoscopic sleeve gastrectomy (SG) is a technique that can improve patient's satisfaction. However, adequate skills are needed as to achieved the intended therapy goal, that is adequate gastric sleeve resection and safety of the operation. Single port procedure can be further complicated as some patients were debilitated with other problems than obesity such as gallstones.

Objectives:
Here, we share our experience in performing single-port SG and cholecystectomy. The liver and the gastric body were retracted using a modified T-Tube catheter and suture thread as to reduce the difficulties of single port procedure.

Methods:
The patient is a female, 40 years old, weight 108 kg, height 1.63 m, BMI 40.6 kg/m2. The circumference of the patient's was as such: thorax 122 cm, abdomen 125 cm, waist 138 cm. And with preoperative diagnosis of metabolic syndrome, type-2 diabetes mellitus, hyperinsulinemia, dyslipidemia, and metabolic associated steatohepatitis.

Results:
The procedure took approximately 2 hour and 30 minutes; the procedure went well without the need for conversion to multiple port. The patient was discharged at the third postoperative day.

Conclusions:
Single port technique to perform SG plus cholecystectomy is feasible. Patience is needed to promote safety especially for those with lesser experience. It is important to note that we always discussed with the patients that conversion to multiple port will be performed as deemed necessary to achieve the intended therapy goals. We acknowledged that more study will be needed before promoting this technique.

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Single port sleeve gastrectomy with one anastomosis transit bipartition

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Background:
Sleeve gastrectomy with transit bipartition (SG-TB) has been gaining attraction from many surgeons. SG-TB delivers a prospect of reducing nutritional complications while maintaining excellent weight loss and resolution of metabolic diseases. “Single anastomosis” or “One anastomosis” bariatric procedure is a popular technique due to its reduced difficulties when compared to the traditional Roux-en-Y technique. More to this, one anastomosis procedure might reduce postoperative gastrointestinal complications due to adhesion and herniation.

Objectives:
Single-port technique in bariatric surgery has been described widely, however, not in SG-TB procedure. In this study, we share our initial experience in performing single-port one anastomosis SG-TB (SG-OATB).

Methods:
The patient is a female, 33 years old, weight 92 kg, height 1.58 m, BMI 36.8 kg/m2. And with preoperative diagnosis of metabolic syndrome, type-2 diabetes mellitus, hyperinsulinemia, dyslipidemia, metabolic associated steatohepatitis, and esophagitis grade A.

Results:
The procedure took approximately 2 hour and 30 minutes; the procedure went well without the need for conversion to multiple port. The total bowel length was measured at 720 cm, and the gastrointestinal anastomosis is located at 300 cm distal from the Treitz ligament. The patient was discharged at the fourth postoperative day.

Conclusions:
To our knowledge, we describe the feasibility of the single-port SG-OATB for the first time. Further evaluation remains needed with greater number of cases and longer follow-up.

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Single-stage laparoscopic adjustable gastric band removal and sleeve gastrectomy

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Background:
Revision after Laparoscopic Adjustable Gastric Band placement are often necessary in cases of severe band-related complications, suboptimal weight loss or recurrent weight gain. Inflammation and foreign body reaction make the procedure of band removal technically demanding.

Introduction:
Laparoscopic Adjustable Gastric Band (LAGB) related complications often require revision procedures with band removal and/or conversion to Laparoscopic Sleeve Gastrectomy (LSG) or Roux-en-Y Gastric By-pass (RYGB). The optimal method of revision remains controversial. Single-stage removal and LSG or RYGB seems to be safe and efficient, while others suggest a two-stage approach.

Objectives:
We present our 10-year experience from March 2014 to March 2024 concerning simultaneous LAGB removal and LSG.

Methods:
All patients underwent preoperative endoscopy and barium swallow, with no sign of stomach perforation, erosion or severe band slippage. We emphasize on a case of a 41-year-old male, who had undergone two operations of gastric band placement. The first band had developed slippage, while the second one infection without erosion. However, single-stage definitive LAGB removal and LSG was achieved.

Results:
No severe postoperative complications were mentioned, while no conversion to open surgery was required. Mean weight loss in the first year was 70% of the excess weight.

Conclusion:
Simultaneous laparoscopic gastric band removal and sleeve gastrectomy for sever obesity seems to be safe and efficient, especially in cases of absence of gastric erosion.

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Sleeve weight guides adequacy of sleeve gastrectomy and maximum weight loss

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Background:
Although laparoscopic sleeve gastrectomy (LSG) is the commonest bariatric-metabolic procedure worldwide, little is known of the precise amount of gastric tissue removed (the sleeve) and what significance this has for outcomes. A combination of anatomic landmarks, proximity of the bougie and its size, the number of staple cartridges used and dead reckoning affect performance of the surgery. This is inherently imprecise and operator dependent.

Objectives:
To determine whether there is a relationship between weight and surface area of the sleeve removed during LSG and the operating surgeon, patient weight loss and resolution of co-morbid conditions in a publicly funded metabolic surgery program.

Methods:
Ninety **(**90) consecutive LSGs were performed by four different surgeons. All used a 36 fr bougie. Once removed the fresh unfixed sleeve was prepared and measured in a standardised fashion. The moist sleeve weight (g) and surface area (SSA, cm2) were compared with patient weight loss and resolution of co-morbidities, at the lowest (trough) weight, 12 and 24 months.

Results:
Median sleeve weight was 107g (64-237). Median SSA was 239 cm2 (141-415). Median sleeve weight (g) for the operating surgeons (1-4) was respectively 129 (n=26), 95 (n=41), 110 (n=13) and 105 (n=10). The sleeve weight produced by surgeon 1 was significantly greater than surgeons 2-4. Higher sleeve weight was significantly correlated with trough patient weight. There was no significant correlation between sleeve weight at 1 or 2 years, or between SSA at trough, 1 or 2 years. Improvement in obesity related comorbid severity occurred in 68% of the cohort. 54% of the cohort had Type II diabetes of whom 80% reduced or ceased medications or were in remission. We found no correlation between sleeve weight and change in comorbid severity.

Conclusion :
In this study the amount of stomach tissue removed during LSG correlated with the operating surgeon. Greater sleeve weight (i.e. more gastric tissue resected) correlated with greater post-operative patient weight loss at trough. Measurement of sleeve weight can serve as a rough guide for surgeons of the adequacy of the resection allowing them to adjust their technique.

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Surgery for gastroesophageal reflux after sleeve by hill procedure completed by anterior gastropexy

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Background:
Obesity is now adays associated with a more or less 50% incidence of gastro-esophageal reflux disease (GERD) in a direct or indirect manner. and after a bariatric surgery revolution, especially sleeve gastrectomy bariatric surgery (SG), gastroesophageal reflux may increase, decrease, persist or develop de novo, and there is about 13-19% incidence of alarming signs to developBarrett's esophagus in long-term acid exposure and on long follow-up, and even Barrett's esophagus may develop though the esophageal reflux may be asymptomatic.

Methods:
In regard to these findings, experts and surgeons and a multidisciplinary team have considered options for treating GERD that de novo presents or persists or increased after SG and have multiple complaints and surgical remediation procedures: Nissen-sleeve procedure, Hill procedure, roux-en-y gastric bypass, ligamentopexy using falciform ligament,cruroplasty (crural) repair with or without prosthetic reinforcement, magnetic sphincter.

Results:
When surgeons faced this type of complaints and face this problem either at the time of a de novo SG or post-SG, and early or late, we have interested and opted for the Hill intervention augmented by an anterior gastropexy.

Conclusions:
The Hill procedure is an optional treatment and feasible surgical option for the post-bariatric surgical patient with GERD especially post sleeve gastrectomy in which the gastric fundus is absent or difficult to access thus eliminating standard fundoplication as a reasonable option.
And it considers safe and a long-term treatment of GERD

Keywords: Antireflux surgery; de novo GERD,; Hill procedure; Post-RYGB; Post-fundectomy;

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Swallowable gastric balloon, experience in Chile

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Background:
Swallowable gastric balloons are new devices for the treatment of obesity, with the advantage of no endoscopy or anesthesia needed for the installation. Usually they are a adequate choice for those patients with BMI >27, obesity with no surgery interest, failure in medical treatment or as a bridging therapy for BMI >50.

Objective:
To describe the experience in Chile after the implementation of this novel device. Methods: It is a descriptive retrospective study on the obesity treated patients with swallowable balloon (Allurion™), performed ambulatory in one center, between 2019 and 2023 with a follow-up of 6 months.

Results:
A total of n=450 consecutive patients were included between August 2019 and November 2023, 74% were women and 26% men. The average age was 38 years. Average body mass index was 30,6kg/m2. Balloon implantation was performed by a MD under fluoroscopy in all cases. Complications where seen in 1.9% of cases, characterized by vomiting 0,5%, abdominal pain 0,5%, gastric retention 0,5%, migraine 0,2%, impact of balloon 0,2% and symptomatic hyperinflation 0,2%. Only 0,7% of patients required a early removal of the device due to intolerance or hyperinflation. No mortality and no serious complication reported. Only 6% of patients did not achieve a minimum of 10% TWL. A mean 6-month weight loss of 12,5% was reported.

Conclusion:
The swallowable gastric balloon is a safe and well-tolerated procedure, with good results in terms of weight loss, becoming a good alternative for the overweight and mild obesity patients. It has a low rate of complications and side effects.

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Symmetric three-port laparoscopic Roux-en-y gastric bypass is safe, effective, and feasible: a novel technique with 3-year follow-up study

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Background:
Single-incision laparoscopic surgery (SILS) has been used in Roux-en-Y gastric bypass (RYGB), but it is rather limited by its disadvantages. Symmetric three-port laparoscopic Roux-en-Y gastric bypass (ST-RYGB) is safe, effective, and feasible according to short-term data.

Objective:
The purpose of this study is to evaluate the mid-term outcomes of symmetric three-port laparoscopic Roux-en-Y gastric bypass (ST-RYGB).

Methods:
The medical records of patients who underwent ST-RYGB between January 2018 and April 2023 were analyzed retrospectively using an institutional database. The analysis of operative time, length of stay and complication rates within 30 days after surgery are performed. Body weight, BMI, fasting blood glucose (FPG), 2h blood glucose, glycosylated hemoglobin (HbA1c), albumin are measured at baseline and 6 months and 1 and 2 years after surgery.

Results:
394 patients who underwent ST-RYGB are analyzed with 252 female patents (63.94%). The mean operative time is 103.78 ± 38.42 min and the length of stay in the hospital after surgery is 2.43 ± 1.05 days. The complication number is 26 (0.66%), including eleven intestinal obstructions and two gastrointestinal anastomosis leakages.

Compared to the baseline values, body weight, BMI and FPG are significantly decreased since six-month post-operation, and remains stable to three years after surgery. HbA1c decreases from 9.05±1.95% at baseline to 5.91±0.91% at 6 months, 6.34±1.9% at 1 year, 6.08±0.86% at 2 years, and 6.17±1.01% at 3 years. The albumin values at each time point after surgery show no significant difference compared to the baseline values.

Conclusion:
ST-RYGB is safe and feasible for patients with different BMI, results in effective body weight control and diabetes improvement without significant hypoproteinemia. A long-term study without loss to follow-up is necessary for better evaluation in the future.

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Takotsubo syndrome - case series in a bariatric-metabolic surgical population

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Background:
Takotsubo Syndrome (TS), also known as stress-induced cardiomyopathy, transient apical ballooning syndrome or 'broken-heart' syndrome is characterised by reversible left ventricular wall motion abnormalities in the absence of coronary artery disease often precipitated by acute emotional or physical stress and clinically resembles acute myocardial ischemia and infarction. The aetiology of TS is incompletely understood but abnormal secretion of endogenous catecholamines contributes significantly to the impairment or 'stunning' of the myocardium.

Objectives, Methods, Results:
A series of three episodes of TS in women undergoing bariatric-metabolic surgery that reflect a variety of clinical presentations whilst satisfying the diagnostic criteria for TS promulgated by the European Society for Cardiology.

- 19 year-old female for laparoscopic sleeve gastrectomy (LSG) presents post-operatively with tachypnoea, borderline oxygen saturations (SpO2) of 92-94%, normal haemodynamic parameters and ECG. Examination and CXR revealed pulmonary oedema and transthoracic echocardiography (TTE) showed left ventricular mid-antero/lateral wall hypokinesis. Clinical condition responded to diuretics and CPAP.

- 39 year-old female patient for LSG. During early laparoscopy SpO2 steadily declined to 84% despite normal ventilatory parameters, correct endotracheal tube (ETT) placement and inspired oxygen levels of 100%. Airway recruitment manoeuvres normalised the SpO2 to 94-96%. The patient was haemodynamically stable with a normal ECG. During emergence, SpO2 remained 92-94%, auscultation revealed bilateral crepitations and the removal of PEEP resulted pulmonary oedema within the ETT. Investigations revealed segmental wall motion abnormalities and elevated cardiac enzymes. Patient was extubated after 18 hours of ventilation.

- 44 year-old female for LSG. Three hours postoperatively, the patient was nauseated, hypotensive (BP 75/50 mmHg) and bradycardic. Patient responded to crystalloid bolus of 500ml with improvement of BP (95/60mmHg) and heart rate 50 bpm. Initial ECG revealed no ischaemic changes. Subsequent investigations showed elevated cardiac enzymes, mid antero/antero-septal and infero-septal hypokinesis and ECG exhibited T wave inversion in lead I and AvL.

Conclusions:
The 3 cases described occurred in persons with obesity without pre-existing cardiac disease undergoing bariatric-metabolic surgery. In comparison to other case reports, the predominant feature in this series was the development of pulmonary oedema and in one case, significant right ventricular involvement and hepatic congestion.

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Technique of sleeve with sleeve jejunal bypass

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Background:
This is a Sleeve Plus procedure, that maintains biliary access by avoiding duodenal transection and no blind area, and is a proximal jejunal bypass as compared to a SASI procedure, to avoid nutritional complications.

Methods:
After performing a regular antrum-resecting sleeve, a Jejunal loop anastomosis is done at 100-150-200 cm from DJ flexure depending on total bowel length using a 45mm cartridge, ensuring a common channel preferably of 400cm or more. Leak test is done with methylene blue and Petersen's space is closed with non-absorbable sutures.

Results:
87 patients underwent this procedure, in last 5yrs, without any intra-operative or immediate post-operative complications and all patients were discharged within 2-3 days.

8 patients had complications such as nausea, vomiting, diarrhoea, dumping syndrome, hypoproteinemia and hypoalbuminemia. 3 patients required a partial reversal of the procedure [disconnection of the jejunal bypass while maintaining the sleeve]; others were managed conservatively. No mortality was seen in this study.

Conclusions:
This bypass can be performed safely and easily, as all surgeons are comfortable with sleeve and a single anastomosis loop bypass, with the added advantage of maintaining endoscopic access to the duodenum and bile duct. If necessary, disconnecting the GJ anastomosis while preserving the sleeve gastrectomy is a technically simpler reversal compared to MGB-OAGB or RYGB.

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Telogen effluvium, the predominant cause of hair loss after bariatric surgery

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Background:
Hair loss is a prevalent concern among individuals who have undergone bariatric surgery, especially affecting young women.

Objectives:
This study aimed to assess the effectiveness of mesococktails, platelet-rich plasma (PRP), and their combination in controlling post-bariatric surgery hair loss.

Methods:
We have enrolled 150 female patients affected by obesity experiencing hair loss within the first three months after bariatric surgery. Patients with vitamin or micronutrient deficiencies, pre-existing hair loss conditions including androgenic alopecia and patients with early post operative catastrophic complications were excluded. Consequently, 138 patients were divided into the following 4 groups: control (normal saline), mesococktails, PRP, and combination therapy (mesococktails and PRP). Eight treatment sessions were conducted fortnightly by a physician using a popular technique. Hair density and thickness were assessed using trichoscan at baseline, 3 months, and 9 months post-treatment initiation. Following their respective surgical procedures, all patients received suitable multivitamin tablets regardless of their normal vitamin levels. The level of zinc, albumin, vitb12, vit D, folic acid, ferritin and iron were checked in all follow up sessions. Top of Form

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Results:
The studied patients had the mean age and the mean BMI of 32.3+_6.5 and 42.36 +_4.27 respectively. Hair density evaluation at 3 months revealed significant higher density in the combination therapy group (145.6±12.6), comparing to mesococktails (130.4 ±14.5) and control groups (125.9±15.4) ($p<0.05$), however hair density did not differ after 9 months among all groups. Hair diameter was notably higher in groups receiving PRP in both evaluation time points. The level of vitamins and micronutrients were not different between groups and no deficiency occurred among patients in all groups.

Conclusion:
The study findings indicate that post-bariatric surgery hair loss is not primarily linked to micronutrient deficiencies, as no significant difference was observed in the levels of vitamins before and after surgery. Therefore, telogen effluvium appears to be the predominant cause of hair shedding in the initial months after surgery, a self-limiting condition that typically resolves within 6-9 months without intervention. Moreover, the use of PRP and mesococktails demonstrates efficacy in mitigating hair loss and supporting hair follicle health.

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The clinical significance of helicobacter pylori on postoperative outcomes after sleeve gastrectomy in relation to intrathoracic migration

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Background:
Among the causes of postoperative reflux after sleeve gastrectomy, spontaneous intra-thoracic sleeve migration (ITSM) of the sleeve has become an under mentioned yet significant complication with an incidence of 30% and has been even described as the natural course of the sleeved stomach. There has been an increased interest in preventing postoperative reflux after sleeve gastrectomy. However, there is lacking evidence on the significance Helicobacter pylori and its clinical significance on postoperative outcome including symptoms of reflux.

Objectives:
The aim of this study was to correlate spontaneous ITSM from our center in correlation with preoperative and postoperative symptoms of GERD with endoscopic and findings from a non-enhanced computed tomography CT. The incidence of H. pylori was collected and correlated with the results.

Methods:
A retrospective chart review of 206 patients who had undergone LSG at our center from 2019 to 2021 was done. A non-enhanced CT scan was performed as a routine 1-year follow up in these patients in order to detect spontaneous ITSM. Patient characteristics including history of smoking and pre and postoperative symptoms of GERD were compared. Preoperative existence of H. pylori was correlated with the findings.

Results:
The incidence of spontaneous ITSM was 14% (n=29, total n=206). The mean interval to diagnosis was 14.7 ± 8.3 months. Twenty-one patients (72%) of the ITSM group had symptoms of persistent GERD while 69 patients (39%) without ITSM had symptoms. There was no difference in incidence of preoperative esophagitis on endoscopy between the two groups. However the ITSM group had a higher incidence of postoperative esophagitis and worsening of degree of esophagitis on endoscopy. The presence of H. pylori did not have a significant impact on postoperative outcomes but was well correlated with persistent reflux.

Conclusion:
Surgeons practicing LSG should be aware of the high incidence of ITSM when discussing procedure selection with patients with thorough preoperative evaluation of pre-existing of GERD. Preventive measures during the sleeve gastrectomy should be considered and performed to minimize ITSM. Although there is lacking evidence on mandatory preoperative eradication, H. pylori eradication should be considered in patients with persistent postoperative reflux.

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The effectiveness of HANAROSTENT® for gastric tube stenosis after sleeve gastrectomy

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Background:
Gastric tube stenosis is one of the refractory complications of sleeve gastrectomy (SG), and its incidence is reported to be 0.5-3.5%. Treatment options include bougie and balloon dilation, but their effectiveness is uncertain. There is also surgical treatment, but there is little experience in Japan, so it is difficult to choose.

Cases:
47-year-old man, a patient wtih severe obesity and with a body weight of 150 kg and a BMI of 48.8 at the time of first visit. Laparoscopic sleeve gastrectomy was performed on the patient after preoperative weight loss of approximately 15 kg. The operation was difficult due to poor visibility due to the large amount of fat in the upper part of the stomach, but gastrectomy was completed with medial approach. Postoperative fluoroscopy revealed poor passage of the contrast medium, and endoscopy revealed stenosis with mild torsion on the anal side. After we diagnosed Intra-thoracic sleeve migration (ITSM) with CT scan, we performed reoperation 2.5 months after the surgery. The surgical findings showed that the greater omentum was firmly adhered to the cut end of the upper part of the gastric tube. Additionally, because the gastric tube had been migrated into the mediastinum, the gastric tube was pulled back into the abdominal cavity and sutured and fixed to the left crus and retroperitoneum. However, even after reoperation, neither symptoms nor image findings improved. The cause of the stenosis was not ITSM but seemed to be caused by some kind of inflammation in the upper part of the gastric tube. Balloon dilation (18 mm) and achalasia balloon dilation (30 mm) were performed to treat the stenosis, but these were ineffective. Therefore, HANAROSTENT® (for esophagus, 10 cm long, full-covered, without reflux prevention valve) was placed. After the stent was placed, oral intake was possible. Even after the stent was removed 2 months later, the patient is able to take oral intake.

Conclusion:
Although the cause is unknown, we experienced a rare gastric tube stenosis after SG that was suspected to be related to some kind of inflammation. It was refractory to various treatments, but HANAROSTENT® was effective procedure.

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The impact of laparoscopic roux-en-y gastric bypass on sleep quality and duration after one year of follow-up

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Background:
Several studies have shown the association between obesity and sleep. Roux-en-Y gastric bypass (RYGB) surgery may improve sleep disturbances in patients with obesity by influencing a variety of factors.

Objectives:
This study aims to evaluate the impact of bariatric surgery on sleep quality.

Methods:
Patients with severe obesity referred to the obesity clinic of a center from September 2019 to October 2021 were collected. The patients were divided into two groups, depending on whether they underwent RYGB surgery. Medical comorbidities and self-report questionnaires regarding sleep quality, anxiety, and depression were collected at baseline and 1-year follow-up.

Results:
54 patients were included, including 25 in the bariatric surgery group and 29 in the control group. However, five patients in the RYGB surgery group and four patients in the control group were lost in the follow-up. Pittsburgh Sleep Quality Index (PSQI) was decreased from a mean of 7.7 to 3.8 in the bariatric surgery group (p-value<0.001). In contrast to the control group, the number of patients with obstructive sleep apnea was significantly reduced in the bariatric surgery group.

Conclusions:
We showed a significant improvement in sleep quality following RYGB surgery. Obstructive sleep apnea, obesity/overweight, and depressive symptoms significantly improved in our study. There is a lack of a better understanding of the association between these factors and sleep quality following surgery. Therefore, further studies are recommended regarding this issue.

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The impact of monoclonal antibody therapy in patients undergoing metabolic obesity surgery: A comprehensive review

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Background:
With the increasing prevalence of obesity worldwide, metabolic bariatric surgery (MBS) has emerged as a definitive treatment option for individuals with obesity. Concurrently, monoclonal antibodies have revolutionised the treatment of various autoimmune diseases, cancers, and inflammatory conditions. These therapies can modulate immune responses, impact wound healing, and affect drug metabolism, which are critical considerations in the perioperative management of bariatric surgery patients.

Objectives:
To evaluate the safety, efficacy, and outcomes of monoclonal antibody therapy in patients undergoing MBS; to identify any specific perioperative management needs or adjustments required for these patients; and to provide evidence-based recommendations for clinical practice.

Methods:
A literature search on publications up to 2024 was executed utilising the PubMed, Scopus, Embase, and Ovid Medline databases, using keywords including "monoclonal antibodies", "bariatric surgery", “guideline”, “recommendations”, “outcome” and “efficacy”.

Results:
Our review synthesised findings from four relevant papers. Key outcomes included the neutral impact of corticosteroids on postoperative complications; conflicting evidence regarding TNF-α inhibitors' effects on infection risk and wound healing; and the safe continuation of methotrexate. Notably, a case report highlighted that post-surgical weight reduction following MBS in a psoriatic patient improved efficacy of infliximab. Another report demonstrated malignant syphilis following adalimumab therapy post-surgery, highlighting attentive monitoring and management of opportunistic infections. Pre-treatment assessment of calcium and vitamin D levels before initiating therapy such as denosumab was found to be salient, given potential risk for symptomatic hypocalcaemia, something highly relevant vitamin D deficiency prone patients post-surgery.

Conclusions:
This review highlights the complex interplay between monoclonal antibody therapy and MBS, highlighting the necessity for individualised perioperative management strategies. While certain immunosuppressive agents may be continued with careful consideration, the evidence underscores a critical need for further high-quality research to establish comprehensive guidelines.

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The impact of obesity on pulmonary function in bariatric surgery candidates

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Background:
Accumulating evidence indicates the association between obesity and lung function. However, the conclusions were not consistent. Besides, little literature has examined the relationship between obesity indicators and lung function in morbid obese populations.

Objectives:
The main purpose of this cross-sectional study is to investigate the association between obesity parameters and pulmonary function in Chinese obese people who will undergo metabolic bariatric surgery.

Methods:
In total, 1834 Chinese aged 16 years to 67 years old (34.4% mela) from China-Japan friendship hospital who have met the criterion of the metabolic bariatric surgery were included. Obesity-related parameters, including body mass index (BMI), waist circumference (WC), waist-to-hip ratio (WHR), and waist-to-height ratio (WHtR), and lung function parameters such as forced vital capacity (FVC) and forced expiratory volume in first second (FEV_1) were measured. Spearman correlation and linear regression were used to evaluate the association of obesity parameters and pulmonary function. Logistic regression was performed to assess the relationship between obesity parameters and lung function damages. Furthermore, the restricted cubic splines were used to model the nonlinear association.

Results:
Spearman correlation analyses showed significant correlations between all obesity-related parameters and lung function. After adjustment for confounding factors, linear regression analyses further demonstrated that all obesity-related parameters, and central obesity defined using those indicators were negatively associated with lung function, while WC, WHR, and central obesity defined accordingly were positively associated with lung function. Logistic regression revealed that increased BMI, WHtR, and WC were associated with increased risks for the presence of lung function damages with additional adjustment for covariates. Furthermore, Odds ratios (ORs) were 0.646 for low BMI (BMI<37.5) to high BMI (BMI≥37.5), 0.564 for peripheral obesity defined by WHtR (WHtR<0.7) to central obesity, and 0.570 for peripheral obesity defined by WC (WC<0.95) to central obesity. However, there was no statistical association between WHR and lung function damages. We found no evidence of a nonlinear association between obesity parameters and lung function damages.

Conclusion:
Obesity is closely related to lung function in Chinese obese people who will undergo metabolic bariatric surgery. Obesity parameters positively correlate with lung function impairment.

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The preliminary report of single-anastomosis sleeve jejunal bypass

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Purpose:
Single-Anastomosis Sleeve Jejunal (SASJ) Bypass is a newly introduced bariatric and metabolic procedure to treat morbid obesity. However, Laparoscopic sleeve gastrectomy (LSG) is a popular procedure to treat morbid obesity. We report the preliminary result by comparison of two surgeries.

Material and Methods:
This is a review clinical trial conducted on 513 patients who underwent two types of bariatric surgery (SASJ bypass and sleeve gastrectomy) from 2012 to 2023. Patients' information including age, gender, height, basal weight, body mass index (BMI), total weight loss (%TWL) within 1, 3, and 6 months after their surgery, and were compared with each other.

Results:
Of the total patients, 331 (64.5%) were female, and 182 (35.5%) were male. The mean BMI was 38.55kg/m2. The mean age was 38 years. The sleeve gastrectomy group number (487 patients) and SASJ group number (26 patients). Members of the two groups were similar due to their age, gender distribution, height, and baseline BMI. The percentage of total weight loss (%TWL) mean during 6 months in SASJ bypass was 20.18%, Sleeve gastrectomy was 20.9%. The lost weight during this 6-month period, not significantly difference regarding percentage of total weight loss (%TWL).

Conclusions:
Regarding the short-term outcomes, SASJ bypass is an effective procedure for weight loss in patients with morbid obesity.

Keywords: Bariatric surgery, Single anastomosis sleeve-jejunal, Metabolic surgery, Sleeve gastrectomy, TWL % mean during 6 months in surgery

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The role and future prospects of bariatric coordinators in Japan

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Background:
Obesity is associated with various comorbidities, necessitating multidisciplinary care for effective treatment. However, challenges such as a lack of cooperation may arise.

Objective:
In our hospital, we established the "Weight Loss Team" comprising over 30 professionals from diverse specialties for effective obesity management. Inspired by the American model of Bariatric Coordinators, we introduced a bariatric coordinator to enhance the efficiency of multidisciplinary care for obesity treatment, serving as a vital link between patients and medical staff.

Methods:
As a facilitator of the "Weight Loss Team," the coordinator addresses issues, negotiates with relevant departments, holds conferences to share patient information. Additionally, the bariatric coordinator is not only involved in inter-departmental negotiations within the hospital but also plays a crucial role in patient care. To assist the doctor, the coordinator conducts patient history before doctor interviews, writes inquiry letters to family doctors, and schedules appointments to alleviate doctors' burdens and reduce waiting times. By consistently engaging with patients from their initial consultation to postoperative stages, the coordinator helps identify any oversights in necessary examinations, contributing to the provision of effective treatment.

Results:
Thanks to hiring the coordinator, the doctor was able to examine more patients. Since the coordinator's hiring, the number of outpatients and surgeries has increased significantly. In 2018, the monthly outpatient count was 97.6, rising to 154.6 in 2022. Surgeries increased from 63 in 2018 to 100 in 2022. Additionally, the introduction of the bariatric coordinator has helped centralize patient information and facilitate collaboration among multidisciplinary teams.

Conclusion:
The Bariatric Coordinator plays a pivotal role in multidisciplinary obesity care, and improved patient satisfaction is anticipated by effectively utilizing this role. Future efforts will focus on actively managing patient meetings, with the bariatric coordinator taking the lead in fostering interactions among patients.

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The significance of measuring methylmalonic acid (MMA) in detecting vitamin b12 deficiencies

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Introduction:
According to the literature, it is difficult to determine a vitamin B12 (VB12) deficiency on tissue-level for Bariatric patients with VB12 levels between 100 and 200 pmol/L. Measuring plasma VB12 levels are a relatively cheap and broadly available biomarker to assess the VB12 content. However, plasma VB12 concentrations poorly correlate with the bioavailable intracellular VB12 content. To assess the functional VB12 storage, a methylmalonic acid (MMA) could be measured.

Objectives:
To study the significance of MMA measurements to detect VB12 deficiency.

Methods:
Since post-bariatric surgery patients frequently show clinical VB12 deficiency while laboratory values are still within the normal ranges, we measure MMA in patients with VB12 levels between 140 and 300 pmol/L. For lower VB12 levels we give VB12 injections immediately.

We observed 200 patients in a pilot study. All patients have had bariatric surgery (50 sleeve, 150 OAGB) either 6 or 12 months ago. Information that was considered for this research includes complaints, VB12 and MMA levels.

Results:
In total 105 patients (=16 %) had VB12 deficiencies based on VB12 or MMA. Of these patients, 32 patients had a VB12 level below 140 pmol/L, 73 patients had a VB12 level between 140–300 pmol/L and MMA levels above 300 nmol/L. Of these 105 patients, a small group has symptoms like tingling fingers and extreme fatigue, even patients with normal-high VB12 levels.

Conclusion:
This study suggests that if VB12 deficiency is tested, MMA levels should by default be assessed instead of VB12 levels. If MMA is measured, we can treat VB12 deficiencies earlier and possibly prevent complaints

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Three-hole laparoscopic sleeve gastrectomy (Video Type）

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Three-hole laparoscopic sleeve gastrectomy (Video Type）

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Time-course changes in gut microbiome communities up to 12-months after one-anastomosis gastric bypass in Australian patients with severe obesity

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Background:
The impact of one-anastomosis gastric bypass (OAGB) surgery on human gut microbial communities beyond 6 months of having the procedure is unknown. The present pilot study characterized microbiota and cardiometabolic markers differences up to 12 months post-OAGB.

Methods:
Seven female participants (mean age 42 years, BMI 55 kg/m^2) underwent a very-low-calorie diet for 3 weeks prior to having OAGB. At pre-surgery and at 3-, 6- and 12-months post-OAGB, faecal microbial communities were analysed by sequencing the V4 region of the 16S rRNA gene using MiSeq (Illumina). Time-course changes in anthropometric measurements, blood pressure (BP), glycaemic status and lipid profile were also assessed.

Results:
At 12 months post-OAGB, patients achieved significant reductions in BMI (-32.7%, $P<0.05$) and systolic BP (-17%, $P<0.05$), with trends for improved glycaemic control (HbA1c -21.5%). Four dominant gut phyla were detected: Actinobacteria, Firmicutes, Proteobacteria and Bacteroidetes. Phylogenetic alpha-diversity analysis indicated that microbial richness and diversity were highest pre-surgery, lowest 6 months post-OAGB and returned towards baseline levels by 12 months post-OAGB. No significant differences were found for Shannon, Simpson and Choa1 diversity measures. For beta-diversity analysis, weighted UniFrac distance data detected significant time-course differences ($p=0.019$). Visually, community shifts were observed pre- vs. 3- and 6-months post-OAGB, but these changes were reversed by 12 months post-OAGB.

Conclusion:
Accompanying significant falls in BMI and systolic BP, and trends for long-term glycaemic control, this study is the first to describe transient changes in the gut microbiota community of Class III patients with obesity 12 months post-OAGB, and to identify altered composition of dominant bacteria.

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Treatment of recurrent weight gain after Laparoscopic Roux-en-y Gastric Bypass with endoscopic application of argon plasma coagulation.

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Background:
Laparoscopic Roux-en-y Gastric Bypass (LRYGB) is one of the main surgical techniques for the treatment of obesity, however, 25% of patients experience post-operative recurrent weight gain. The endoscopic application of argon plasma coagulation (EAAPC) in the gastroenteroanastomosis (GEA) of LRYGB has proven to be a promising technique for the treatment of these patients.

Objectives:
To evaluate the effectiveness, complications, and satisfaction of patients undergoing endoscopic application of argon plasma coagulation in GEA in patients with recurrent weight gain after LRYGB at a single hospital.

Methods: This is a single-center observational retrospective study with a total of 48 patients who underwent EAAPC in GEA. Data collection was carried out in electronic medical records, in addition to a telephone survey, collecting information on anthropometry, complications, and a questionnaire on satisfaction and quality of life after the procedure.

Results:
There was an average reduction of 2.62 kg/m² in body mass index between the time of the procedure and the end of the study, which is equivalent to approximately 8.2 kg, with 62.5% satisfaction and a low complication rate among patients analyzed.

Conclusion:
Endoscopic application of argon plasma coagulation in GEA appears to be a safe and effective procedure for weight loss in post-LRYGB patients, with a good satisfaction rate among patients.

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Understanding the current landscape of body contouring surgery after massive weight loss in Australia

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Background:
Patients who have massive weight loss (MWL), defined as 50% or greater loss of weight in excess of their ideal BMI, are often left with redundant skin which causes debilitating physical and psychological sequalae. Body contouring surgery (BCS) is an effective treatment for redundant skin post-MWL, and BCS has been proven to improve patient satisfaction, body image and health-related quality-of-life. Internationally, there is a large disparity between the number of patients who desire BCS, and those who eventually undergo such procedures. This highlights the need for an ongoing evaluation of each health systems' approaches towards MWL patients to improve BCS access as part of their multidisciplinary management.

Objectives:
To gain an insight into the current landscape of BCS post-MWL in Australia and compare with other developed countries. The survey will assess trends in patient demographics, weight loss methods prior to BCS, barriers and motivations for seeking BCS, the type of BCS most desired, and associated complications.

Methods:
A questionnaire developed on Microsoft Forms will be sent to several nationwide bariatric patient support groups to gain an insight into the prevalence and patterns of BCS in the Australian cohort.

Results:
Data collection is ongoing and the prevalence and pattern of BCS will be available at the time of the congress.

Conclusion:
This study aims to survey the prevalence, pattern, motivation, and barriers to BCS in post-MWL patient in Australia. This will help guide strategies to improve access of BCS, which has proven physical and psychological benefits for MWL patients.

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Unlocking high surgical volume (2,000 cases in 3 years): Insights from early career Optimal Clinical Response in bariatric surgery

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Navigating the journey towards high surgical volume as a young surgeon often appears daunting, yet achievable through strategic approaches. Reflecting on my own experience of conducting 2,000 bariatric surgeries within a mere 3-year span, I outline five key factors contributing to this rapid achievement.

Firstly, leveraging the expertise of seasoned mentors proved invaluable in honing skills and navigating challenges.

Secondly, a commitment to continual self-assessment and improvement fostered enhanced outcomes and minimized complications.

Thirdly, adopting a compassionate approach by treating every patient with the utmost care, akin to caring for one's own parents, facilitated trust and patient satisfaction.

Fourthly, regular dissemination of information and educational content through social media platforms helped expand reach and attract a diverse patient pool.

Lastly, unwavering support from both hospital teams and family provided the necessary infrastructure and emotional backing for sustained optimal clinical response. While these insights stem from personal experience, they offer valuable lessons for aspiring surgeons aiming to accelerate their professional growth.

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Video case report: Ectopic pancreas resection with concomitant sleeve gastrectomy for severe obesity

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Introduction:
Ectopic pancreatic tissue is a rare entity, where pancreatic tissue is found in extra-pancreatic location with neither anatomical nor vascular connection to pancreas. It is found incidentally during laparotomy in 0.2% and autopsy specimens in 0.5-14%. It could be found anywhere from esophagus to colon; however, it mostly occurs in stomach in 25-40% and mostly it is asymptomatic.

Methods:
Here we report a 19-year-old male, not known to have any medical illness, suffers from severe obesity with a BMI 49.8kg/m^2, presented to metabo;ic bariatric surgery clinic. On routine pre-operative assessment, Esophago-Gastro-Duodenoscopy (EGD) revealed an incidental 3cm submucosal mass in gastric body. Biopsy was inconclusive. Computed tomography of abdomen revealed 3cm solitary submucosal mass at distal gastric body near greater curve; the commonest differential was gastrointestinal stromal tumor.

Results:
After counselling, sleeve gastrectomy, with mass free-margin resection was performed laparoscopically using 4ports, under the guidance of a 36-french calibration tube, intra-operative EGD confirmed the complete excision. Patient discharged on the next day. On 2 weeks post-operative, patient was seen in good condition and 15kgs loss. No perioperative complications were sustained. Histopathology revealed 2.5X2.2cm ectopic pancreatic tissue with 1cm free margin.

Conclusion:
With the increasing number of metabolic bariatric procedures done worldwide, we encounter more and more rare conditions. To the best of our knowledge there are very few cases of ectopic pancreas reported in relation to bariatric surgery. In our case we demonstrated that concomitant bariatric surgery with excision of the heterotrophic pancreatic tissue was safe and did not add any morbidity.

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Vitamin B6 toxicity at 12months following bariatric-metabolic surgery

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Background:
Vitamin B6 toxicity is increasingly reported following bariatric-metabolic surgery (BMS). Regular intake of multivitamins and/or supplements containing vitamin B6 and/or energy drinks increases the risk in this patient group (1). Non BMS-specific multivitamins can contain high levels of vitamin B6. BMS-specific multivitamins have a higher cost and are not available on prescription within New Zealand. Vitamin B6 toxicity causes sensory and peripheral neuropathy and unstable gait. These symptoms can greatly impact quality of life. Monitoring of vitamin B6 is not currently part of routine management in international BMS guidelines.

Objectives:
To describe the incidence of elevated vitamin B6 and relate this to multivitamin intake in individual's 12-months post BMS within the Te Toka Tumai Auckland BMS program.

Methods:
All patients who had their primary surgery at Te Toka Tumai Auckland had pyridoxine checked at 12 months post-surgery over a six-month period in 2023. Data on nutrition supplements and energy drinks intake was also collected.

Results:
N=16 were included in the survey. N=6 were excluding due to blood tests not being completed. Thirteen of 16 (81%) had high pyridoxine levels. No vitamin B6 deficiency was reported.

Table 1. Demographics

	All n=16	Normal n=3	High n=13
Surgery			
Sleeve	6	2	4
RYGB	8	1	7
SAGB	2	0	2
Gender			
Female	10	3	7
Male	6	0	6
Ethnicity			
NZ European	3	0	3
Maori	5	1	4
Pacific Island	6	2	4
Other	2	0	2
BMI at initial appointment (kg/m²)	50	60.5	47.6

Of those with high pyridoxine levels the average was 343nmol/L (range 126-867nmol/L). Two of 13 individuals regularly had energy drinks. The highest pyridoxine level (867nmol/L) was seen with SAGB. Only 18% took a BMS-specific multivitamin.

Conclusion:
These results highlight the importance of regular vitamin B6 screening. Critical evaluation of nutrition-focused physical findings, energy drink intake and composition of supplementation should be a regular component of post surgery care. The cost-barrier for BMS specific multivitamins should be addressed to support equity of health.

This has motivated a change of practice within the Te toka tumai team to address access barriers to obtaining BMS specific multivitamins.

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Water-soluble vitamin deficiencies following laparoscopic one-anastomosis gastric bypass

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Background:
The growing prevalence of patients with obesity is a major global health concern which places considerable strain on healthcare resources and results in significant morbidity and mortality. Bariatric-metabolic surgery has been proven to be safe, effective and improve health outcomes and reduce mortality. The three most common operations performed in Australia are the sleeve gastrectomy, roux-en-y gastric bypass and one anastomosis gastric bypass (OAGB).
The one anastomosis gastric bypass involves anastomosing a loop of jejunum to the lesser curvature based gastric pouch to generate a metabolic and hormonal weight loss milieu. A segment of proximal small bowel is bypassed in this procedure. This segment is where the majority of water soluble vitamins are absorbed.
The water soluble vitamins, encompassing thiamine (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), biotin (B7), folate (B9), cobalamin (B12) and vitamin C play vital roles in various physiological processes. While established guidelines after metabolic surgery advocate oral supplementation for thiamine, B12 and folate deficiencies, the clinical significance of other water-soluble vitamins remains underexplored and lack corresponding recommendations.

Objectives:

1. To determine the prevalence of pre-operative water-soluble vitamin deficiencies in patients eligible for bariatric-metabolic surgery.
2. To determine the incidence of post-operative water-soluble vitamin deficiencies following one anastomosis gastric bypass.

Methods:
We conducted a prospective study of patients undergoing OAGB and measured their vitamin levels at defined time points post-operatively.

All patients aged ³18 years undergoing OAGB surgery at St. Vincent's Hospital Melbourne, St. Vincent's Private Hospital Melbourne and Epworth Hospital from January 2017-2023 were included. The data was recorded at pre-operatively and at 6 months and 12 months post operatively.

Results:
We examined 22 patients who underwent one anastomosis gastric bypass and recorded their baseline vitamin levels and compared them to their levels at 12 months. This demonstrated that 4.5% of patients were deficient in B1, 9% of patients were deficient in B2, 4% were deficient in B9 and 45% were deficient in Vitamin C.

Conclusion:
This study demonstrates that there are deficiencies in water soluble vitamins post OAGB. These can be clinically significant and require monitoring and consideration of supplementation.

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Weight loss and surgical outcomes of laparoscopic sleeve gastrectomy in patients with a body mass index ≤ 35 kg/m2

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Background:
Laparoscopic sleeve gastrectomy (LSG) is the most commonly performed metabolic bariatric surgery. Its efficacy for both weight loss and comorbidity resolution in the population affected by severe obesity has been well established.

Objectives:
Outcomes in the class I obesity group are not well researched. We report outcomes in a patient cohort with a BMI ≤ 35 kg/m2.

Methods:
Consecutive patients with a BMI ≤ 35 kg/m2 who underwent primary LSG at a single institution between 2010 and 2022 were reviewed from a prospectively collected database. Weight loss outcomes and complications were documented.

Results:
339 patients were included with a mean preoperative BMI of 33.3 kg/m2 and mean age of 45 years. Mean percentage excess weight loss (%EWL) was 97%, 115%, 113% and 92% at 6 months, 12 months, 2 years and 5 years respectively. Clavien-Dindo grade III-V complications occurred in 3.5% of patients and there were no patient deaths.

Conclusion:
These findings demonstrate that in patients with a BMI ≤ 35kg/m2, LSG provides effective durable weight loss with low rates of postoperative complications.