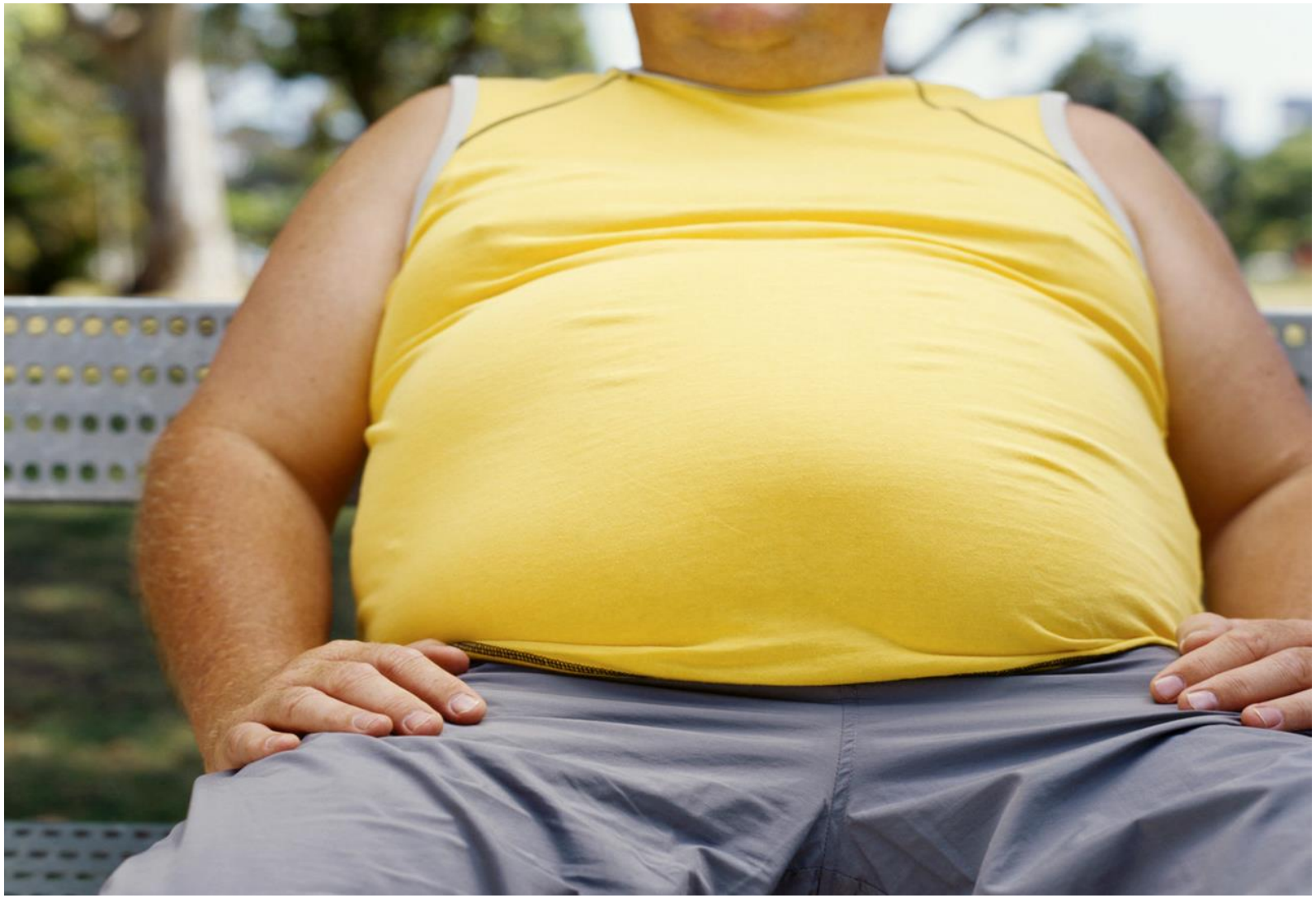


Asian Evidence in SADI-S

Dr. Ravi Rao FRACS FASMBS

Director, Perth Surgical & Bariatrics
Western Australia

PERTH SURGICAL & BARIATRICS

Conflict of Interest Disclosure

Clinical Consultant, Lexington Medical

Evolution from DS

- A procedure that gives:
  - Durable long term and excellent weight loss like the DS
  - Excellent comorbidity resolution like the RNYGB
  - Can even eat and drink like the sleeve if not better!
- Pylorus is preserved - No rise and fall of Blood sugar, BP. QOL index better than the sleeve
- One anastomosis - Easier to do, no mesenteric resection, no marginal ulcers, or anastomotic complications. Nil bile reflux
- Limb lengths
  - Now standardized to 300 cms. Decreased incidence of Diarrhoea & Nutritional deficiencies when common channel is > 300 cms[1].
- Size of sleeve - loose 36 fr (Rao/Pujol/Torres) , Dan Cottam 40 Fr

PERTH SURGICAL & BARIATRICS

1) Single Anastomosis Duodeno-Ileal Switch (SADIS): A Systematic Review of Efficacy and Safety, Shoar et al, OBES SURG DOI 10.1007/s11695-017-2838-8

Global Evidence - SADI-S

Title: Evaluation of metabolic outcomes following SADI-S: A systematic review and meta-analysis

METHODS

2285 Studies Reviewed

16 Included Studies

Systematic Review and Meta Analysis Following PRISMA and MOOSE Guidelines

RESULTS

3319 patients

1704 (51.3%) undergoing SADI-S.

SADI-S Patients
- Higher BMI and weight
- More diabetes and dyslipidemia

SADI-S
- Shorter operative duration (MD -36.74, $p < 0.001$)
- Greater DM remission than LRYGB (OR 4.42, $p = 0.04$).
- Vitamin A, D, E, K, and B12 deficiency in 12.6%, 32.1%, 0.0%, 0.5%, and 3.4% of patients

CONCLUSIONS

SADI-S improved diabetes compared to LRYGB

comparable post-operative risks to OAGB and LRYGB

Faster Procedure.

Fewer malabsorptive complications than DS.

Kevin Verhoeff, Valentin Mocanu, Aiden Zalasky, Jerry Dang, Janice Y. Kung, Noah J. Switzer, Daniel W. Birch, Shahzeer Karmali

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

PERTH SURGICAL & BARIATRICS

Roux-en-Y Gastric Bypass versus Sleeve Gastrectomy PLUS procedures for Treatment of Morbid Obesity: Systematic Review and Meta-Analysis

METHODS

The Web of Science and PubMed databases were searched to identify studies published before December 2020, comparing SG PLUS procedures versus RYGB. The fixed-effect model or random-effect model were used, depending on the degree of heterogeneity, to calculate outcomes. Statistical analysis was performed using Review Manager 5.3.

RESULTS

SADI-S procedure was found to achieve significantly greater percentage of excess weight loss than the RYGB.

SG+DJB and SADJB achieved greater weight loss than the RYGB.

Major complications were fewer with SG+JJB than with RYGB, but the difference was not significant.

SG PLUS procedures appear to achieve better weight loss and cause fewer complications than RYGB

CONCLUSIONS

SG PLUS procedures appear to achieve better weight loss and cause fewer complications than RYGB.

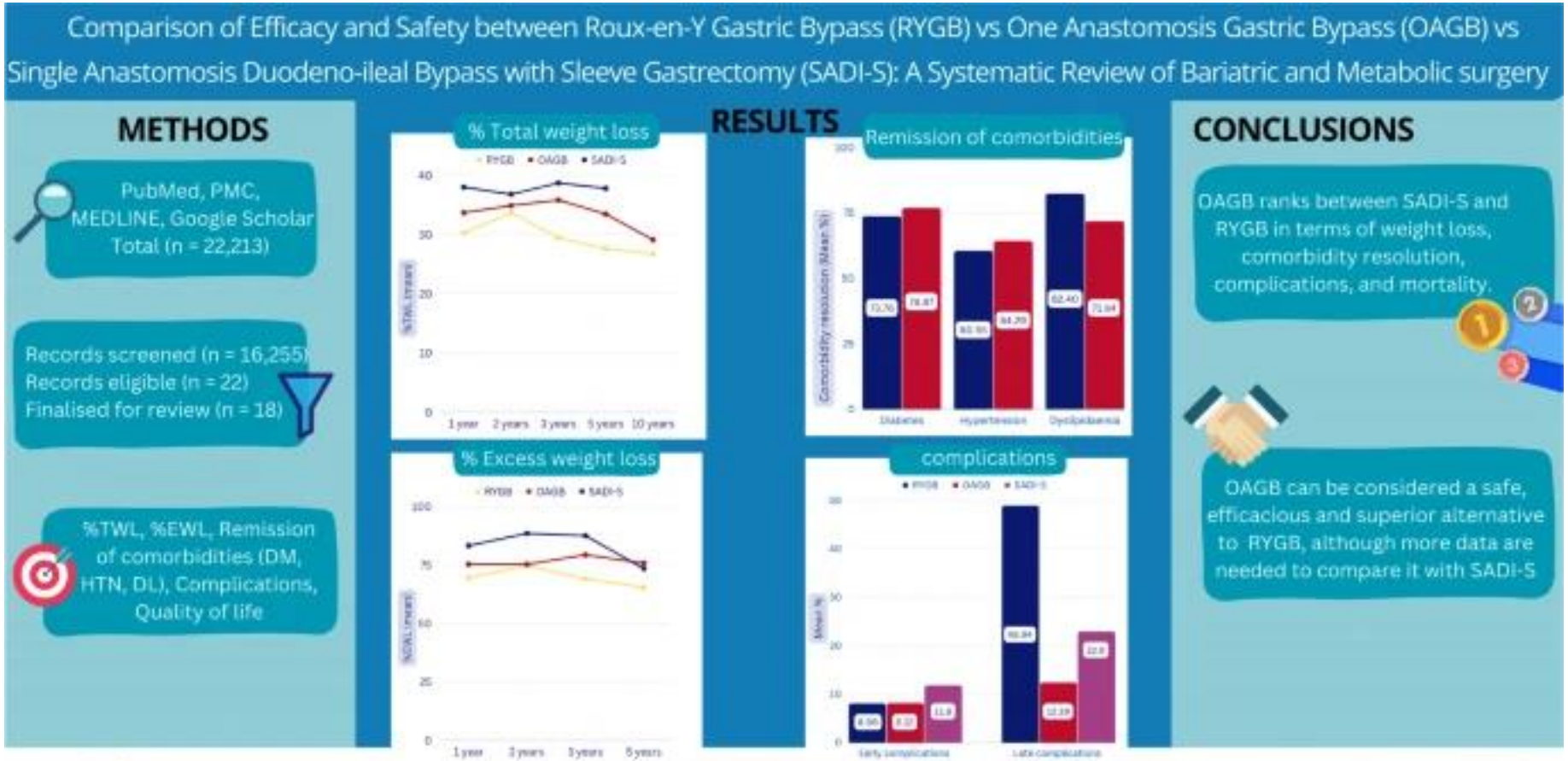
IFSO

Gang Chen, Gui-xiang Zhang, Bo-qiang Peng, Zhong Cheng, Xiao Du. **Roux-en-Y Gastric Bypass versus Sleeve Gastrectomy PLUS procedures for Treatment of Morbid Obesity: Systematic Review and Meta-Analysis**

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

PERTH SURGICAL & BARIATRICS

Global Evidence- SADI-S



IFSO

Balamurugan G, Sagaya Joel Leo, Subbiah TS, Balaji Prasad, Chetna Ravindra, Vinayak Rengan, Eham Arora, Vivek Bindal

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

PERTH SURGICAL & BARIATRICS

Nutritional deficiencies – SADI- S

164 Patients- Follow up 84.7% at 5 years and 75% (60/80) at 10 years. Limb length 200 cm - 50, 250 cm in 99, and 300 cm in 15 cases.[4]

724 patients: 5 year follow up 21%;

Despite supplementation, at 5 year:

- hypoproteinemia in 25%;
- low vitamin D: 70%;
- low ferritin: 56%;
- vitamin A: 40%;
- Zinc: 32%.

At 10 years:

- Ferritin (26.7%)
- vitamin D (57.9%)
- vitamin A (26.7%).

Compared to baseline, ferritin, vitamins B1 and D improved significantly, Calcium, PTH, albumin, total protein, and vitamin E worsened significantly.[5]

4) Sánchez-Pernaute et al Long-Term Results of Single-Anastomosis Duodeno-ileal Bypass with Sleeve Gastrectomy (SADI-S) Obesity Surgery (2022) 32:682–689
5) Surve et al Long-term outcomes of primary single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) Surgery for Obesity and Related Diseases 16 (2020) 1638–1647

Medium-Term Nutritional and Metabolic Outcome of Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI-S)

Marco Raffaelli, Geltrude Mingrone, Giuseppe Marincola. Nutrients Volume 15 Issue 3 10.3390/nu15030742

Table 5. Nutritional results of people operated with SADIS-S enrolled in our study (66 patients).

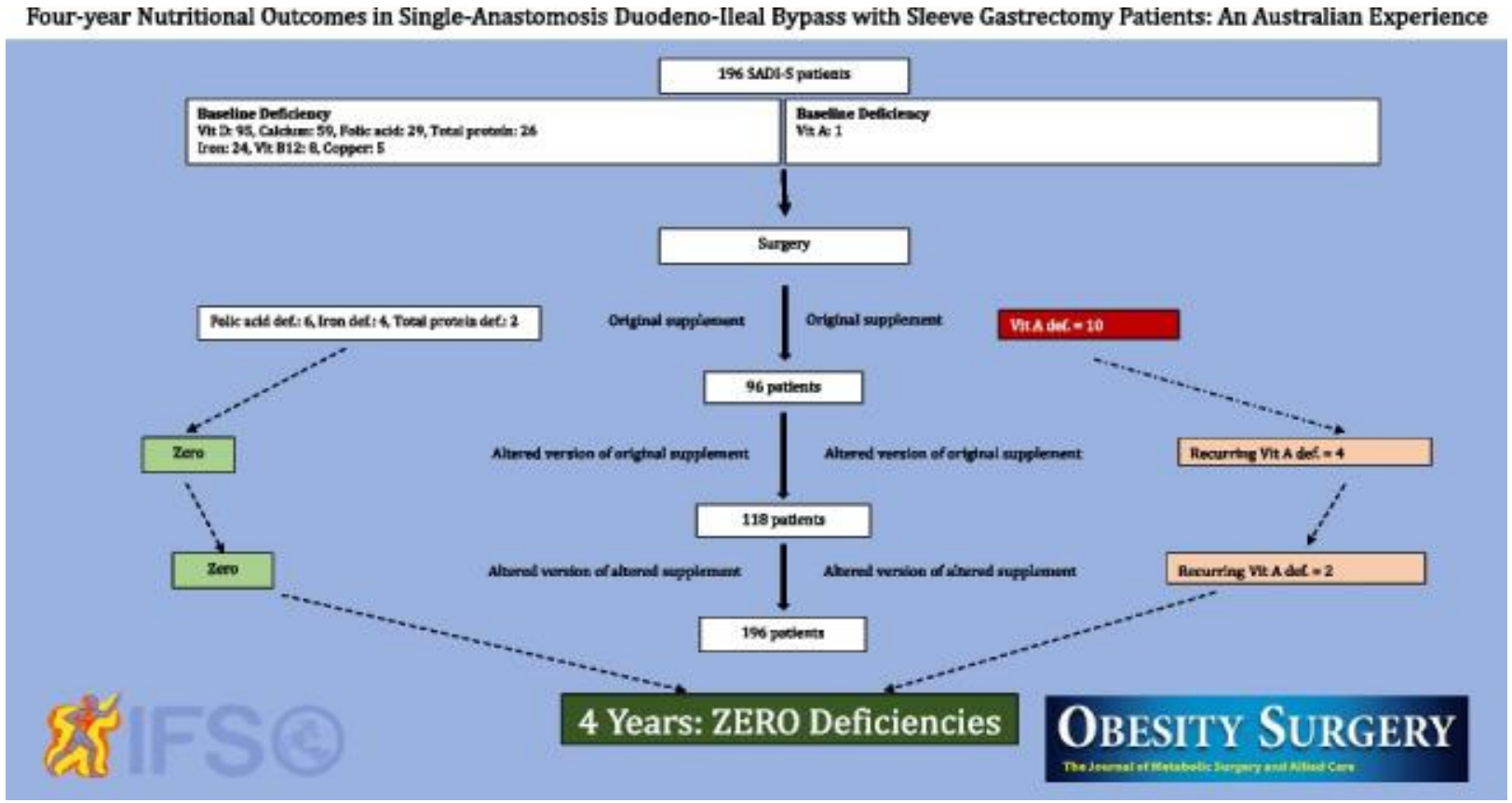
		Before SADI-S		24 Months after SADI-S		
	Reference Values	Median	% Deficiency	Median	% Deficiency	*p* Value *
Hemoglobin (g/dL)	F (12.0–15.0 g/dL) M (13.0–17.0 g/dL)	13.3 (12.15–13.75)	18.18%	12.9 (11.4–13.2)	3.03%	0.012
Total Serum Protein (g/L)	(65–85 g/L)	78 (74.5–81.5)	0.00%	66 (63.5–70.1)	1.52%	0.088
Albumin (g/L)	(34–48 g/L)	41 (39.1–43.3)	1.52%	38 (34.5–42.1)	4.52%	0.078
Calcium (mg/dL)	(8.6–10.2 mg/dL)	9.6 (9.2–9.8)	0.00%	8.9 (8.6–9.2)	0.00%	0.001
Sodium (mmol/L)	(135–145 mmol/L)	140 (139–141)	0.00%	141 (139–141.0)	0.00%	0.472
Potassium (mmol/L)	(3.0–5.0 mmol/L)	3.9 (3.6–4.05)	0.00%	4.0 (2.9–4.4)	3.03%	0.241
Chloride (mmol/L)	(98–108 mmol/L)	103 (100.5–107.2)	0.00%	103 (99.0–108.5)	1.52%	0.498
HDL (mg/dL)	(>40 mg/dL)	46 (38.5–55.1)	22.72%	52 (29.0–70.5)	1.52%	0.577
LDL (mg/dL)	(<130 mg/dL)	103 (95.0–158.2)	18.18%	60 (50.6–142.6)	1.52%	0.475
HbA1c (mmol/mol)	(23.0–41.0 mmol/mol)	46 (43.1–46.5)	9.09%	30 (24.5–40.5)	0.00%	0.048
Glucose (mg/dl)	(65–110 mg/dL)	90 (84.50–106)	16.67%	81 (75.0–87.0)	0.00%	0.021
Vitamin D (ng/mL)	(31–100 ng/mL)	29.4 (16.1–38.7)	12.12%	28.8 (10.2–39.7)	31.82%	0.406
Vitamin B12 (pg/mL)	(187–883 pg/mL)	436 (373.7–1193.5)	0.00%	945 (678.0–1035.0)	1.51%	0.5
Folic acid (ng/mL)	(>4 ng/mL)	4.9 (3.15–7.92)	3.03%	6.3 (3.3–12.8)	9.09%	0.312
Parathormone (pg/mL)	(14–72 pg/mL)	63.3 (48.2–100.4)	12.12%	57.5 (34.02–111.0)	9.09%	0.931

* *p*-value refers to comparison continuous values.

PERTH SURGICAL & BARIATRICS

Four-Year Nutritional Outcomes in Single-Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy Patients: an Australian Experience

Rao et al Obes Surg. 2023; 33(3): 750–760.



196 primary SADI-S eligible cases since 2017 to April 2022

Follow up nos.
1 year – 152 (78%)
2 year – 129 (73.2%)
3 year – 94 (73.4%)
4 year – 58 (59.7%)

Post-operative

• Vit A	8.1%	
• Folic acid	3%	(6 Mild)
• Protein Deficiency	1%	(2 Mild)
• Iron deficiency	2%	(4 Mild – all Women)

There were no long-term complications, revisions/conversions, or mortalities related to nutritional deficiencies.

PERTH SURGICAL & BARIATRICS

Asian Evidence in SADI-S

Primary SADI-S in Chinese with diabetes and BMI < 35 kg/m²: a retrospective study with 2-year follow up

METHODS

① Time: June 2017 to December 2018

② Patients with diabetes and BMI < 35 kg/m²

③ Patients who underwent primary SADI-S

26 patients

Patients were followed up at 3, 6, 12, and 24 months.

RESULTS

① All patients completed 2-year follow up

② No severe complications was observed within 2 years

③ Effect of primary SADI-S in Chinese with diabetes and BMI < 35 kg/m²

	BMI	%TWL	FBG	HbA1c
Pre-operation	34.40 (28.74,34.96)	–	7.77 (5.11,17.87)	8.24 ± 1.93
At 24 months	24.72 (17.96,29.07)	26.26 (13.33-43.88)	5.3 (4.23,8.12)	5.47 ± 0.96

CONCLUSIONS

SADI-S (BMI < 35 kg/m²)

Effective

Feasible

① Careful patient selection

② Postoperative nutritional complications

IFSO

Authors: Liang Wang; Qiqige Wuyun; Dexiao Du; Qing Sang; Xuejing Zheng; Dongbo Lian; Nengwei Zhang

Title: Primary SADI-S in Chinese with diabetes and BMI < 35 kg/m²: a retrospective study with 2-year follow up

Obes Surg.year ..... Month ..... doi: .....

OBESITY SURGERY

The Journal of Metabolic Surgery and Allied Care

PERTH SURGICAL & BARIATRICS

Efficacy and safety of single-anastomosis duodenal-ileal bypass with sleeve gastrectomy for the treatment of Chinese T2D patients with obesity

Zeyu Wang, Lun Wang, Tao Jiang*, Lifu Hu, Zheng Zhang, Minghao Xiao

Asian Journal of Surgery 46 (2023) 756e760 June 2022

- 32 cases
- Minor complications - 15.6% (5/32). Major complication rate - 6.3% (2/32)
- At 1 year, BMI 40.8 ± 7.4 ⬇ 23.9 ± 2.9, HbA1c 8.5% ⬇ 5.0% , TWL was (40.4 ± 6.5)%
- At 2 years, BMI - 24.9 ± 2.4, HbA1c ⬇ (4.8 ± 0.4)% , TWL was (42.9 ± 4.9)%
- T2D remission - 100% at 1 year and 2 years.
- No significant difference in nutritional outcomes.

PERTH SURGICAL & BARIATRICS

Outcomes of totally robotic single-anastomosis duodenal-ileal bypass with sleeve gastrectomy: A large single-centre series

Lun Wang, Zeyu Wang, Tao Jiang* Department of Bariatric and Metabolic Surgery, China-Japan Union Hospital
Asian Journal of Surgery 46 (2023) June 2022

- 102 consecutive patients
- 100% follow up 2 years
- 30-day complication - 6.9% (7), major complication (3) 2 gastric leakages, 1 postoperative acute respiratory failure.
- No long-term complications
- The mean %TWL at 1 yr 40.86 ± 7.84%, 2 years, 44.64 ± 5.88%, respectively
- No Nutritional data reported

PERTH SURGICAL & BARIATRICS

Comparative analysis of 5-year efficacy and outcomes of single anastomosis procedures as revisional surgery for weight regain following sleeve gastrectomy

Surgical Endoscopy (2023) 37:7548–7555,https://doi.org/10.1007/s00464-023-10234-3, Asaad F. Salama et al, Hamad General Hospital, Academic tertiary referral center, Qatar.

	OAGB	SADI-S
No of patients (91)	49	42
BMI	43.7 +/- 6.8	45.9 +/-10.3
TWL %	19.4 + 16.3	30.0 +/- 18.4
T2DM resolution (5 years)	50%	75%
Conversion to RNYGB	5 (Bile reflux & Weight regain)	1 (Intractable reflux)

No statistical difference in Nutritional outcomes at 5 years between the 2 procedures

Conclusion: Sadi-S - More weight loss, higher rate of resolution of comorbidities with similar nutritional outcomes at 5 years

PERTH SURGICAL & BARIATRICS

Key Findings/Challenges and Future Directions from Asian studies

- **Rising Interest:** Notable uptick in studies from Asian countries exploring SADI-S
- **Diabetes Management:** Several studies indicate that SADI-S can be effective in managing type 2 diabetes, especially in patients with higher BMIs
- **Weight Loss:** Consistent with global trends, SADI-S has shown promising results in terms of weight loss in Asian populations.
- **Limited Data:** Compared to more established procedures like RYGB and SG, the evidence base for SADI-S is still relatively smaller.
- **Long-term Outcomes:** While short-term results are encouraging, longer-term studies are needed to assess the durability of SADI-S effects.
- **Patient Selection:** Identifying optimal patient candidates for SADI-S is an ongoing area of research.

PERTH
SURGICAL &
BARIATRICS