SAFETY & EFFICACY of SASJ {SLEEVE + SLEEVE-JEJUNAL BYPASS} – 5 yr DATA MultiCenter

SURENDRA UGALE, RAJ PALANIAPPAN, M. BHARUCHA – Kirloskar – Apollo- Hinduja Hospitals

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Original Article

Safety and Efficacy of Sleeve Gastrectomy with Sleeve Jejunal Bypass: An Advantage over Other Bypass Procedures – Multicenter 3 and 5 year Data

Surendra Ugale, Rajkumar Palaniappan[1], Manoj Bharucha[2], Ayushka Ugale, Nikhilesh Krishna[1], Akshan Ugale, Trilok Ram

Kirloskar and Virinchi Hospitals, Hyderabad, Telangana, [1]Institute of Bariatrics, Apollo Hospitals, Chennai, Tamil Nadu, [2]Lilavati and Criticare Asia Hospitals, Mumbai, Maharashtra, India

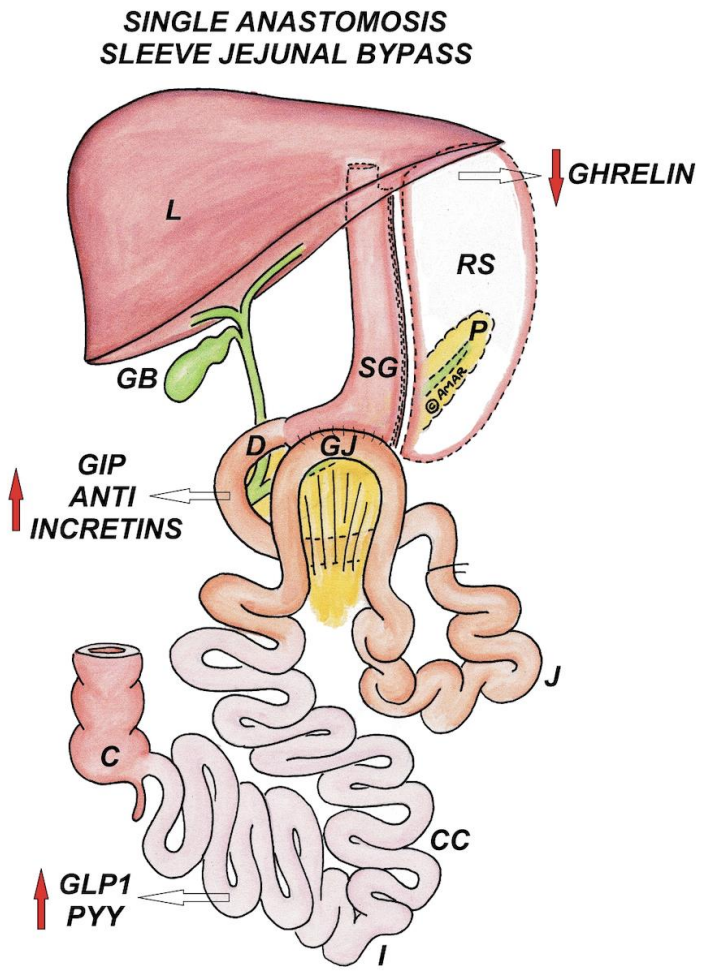
[X]-- I have no potential conflict of interest to report

Need for Newer Procedures ??

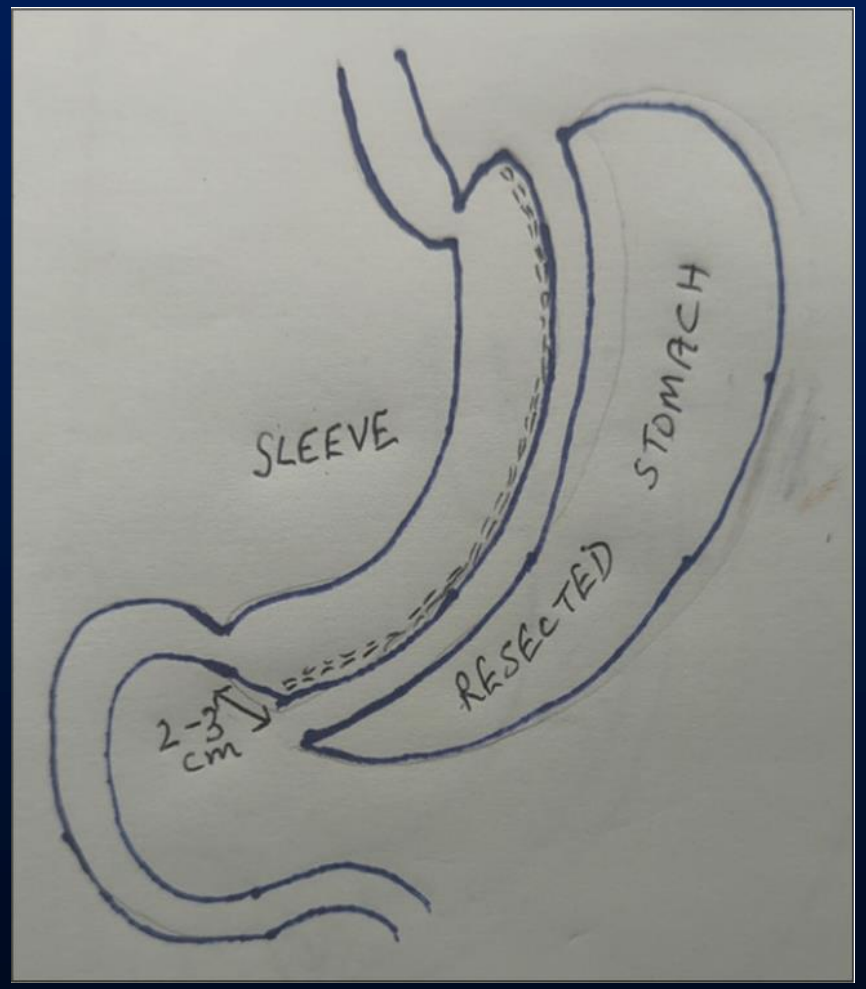
- SASI introduced as an effective SLEEVE PLUS Bypass procedure, instead of RYGB and OAGB
- Endoscopic {Including Biliary} access maintained
- Revision was much easier
- Higher incidence of serious Nutritional Side-Effects
- Safer and Better Option ➔ SASJ

Procedure

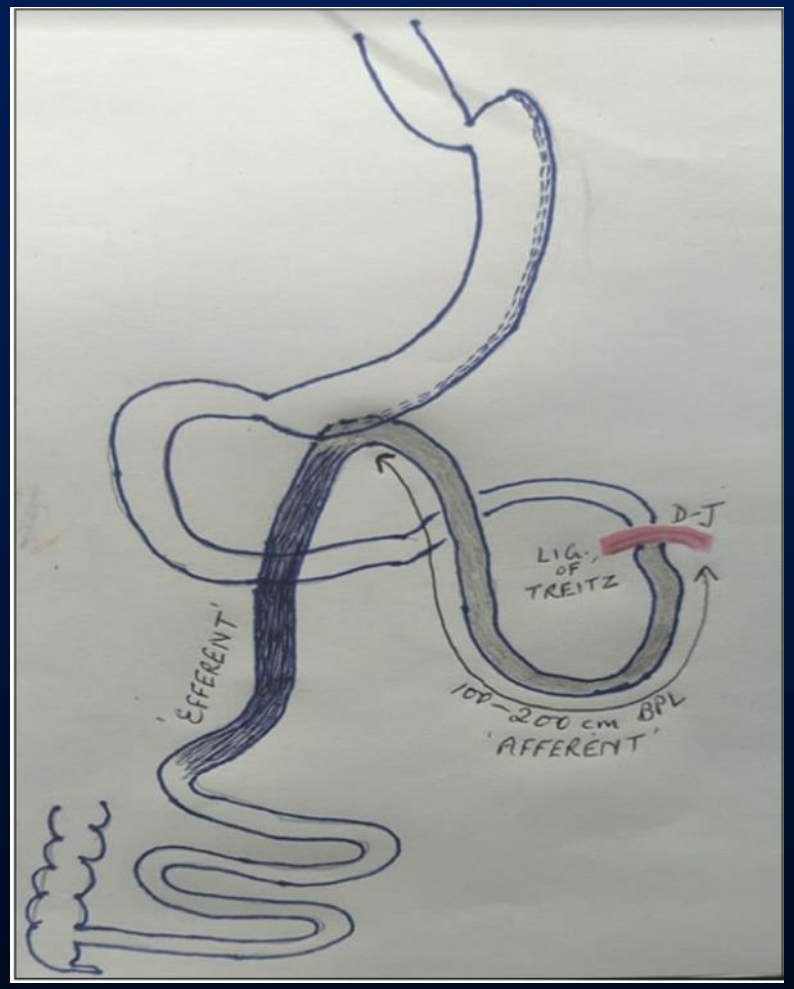
-Laparoscopically, using 6 ports.
-Stapled Sleeve Gastrectomy -36-38 F gastric bougie for calibration.
-Jejunum is measured and marked at 200 cm from the DJ flexure, with a 2-limb suture;
proximal to that with a 1-limb suture to establish the proximal and distal aspects.
-Remaining small bowel is measured proximally from ileo-caecal valve (ICV)
→ evaluate total small bowel length → ensure sufficient common channel remains >300cm; preferably >400cm
-Antecolic stapled anastomosis of marked jejunal loop to antral end the sleeve
→ Blue 45 mm cartridge.
-Enterotomy is closed with 3-0 PDS with intracorporeal suturing.
-Leak test is done with methylene blue
-Petersen's space is closed with continuous 3-0 prolene sutures
→ prevent internal herniation.



1st Step ➔ Standard Sleeve -36Fr bougie



2nd Step➔ SG-Jejunal Anastomosis
{with leak test and closure of Petersen's space}



Sleeve Gastrectomy With Sleeve-Jejunal Bypass

➔maintain biliary access by avoiding duodenal transection

➔creating a functional bypass to achieve weight loss and resolution of the metabolic syndrome.

➔Aimed at making a bypass procedure easier for all Bariatric (including younger) surgeons

[combines the ease of a SG, with the widely accepted OAGB-MGB & benefits of a Bipartition, using a loop anastomosis to create a bypass]

Best of both Worlds !!!

Retrospective multi-center data analysis of 130 patients
3 centres
Follow-up of 1-5 yrs

Demographics

Preop Data	Mean
Age	42
Gender [M/F]	41 Male; 71 Female
Weight	121kg
BMI	45.8kg/m2
Diabetes	73 of 112 = 65%
HbA1c	7.5% [4.9–16%]

Inclusion criteria

-BMI >30kg/m2 ±comorbidities
-At least 12 months follow up
-Underwent this procedure as a primary surgery

Exclusion criteria

-Previous Bariatric surgery
-Those lost to follow up

Outcomes

Primary outcome - Weight loss and Partial Remission of T2DM (Clinically relevant -[HbA1c ≤ 6.5% without medication]
Secondary outcomes - Maintenance of weight and BMI; Nutritional Status and Complications.

FOLLOW-UP %

	Pre Op	1-yr	3-yrs	5-yrs
Total Number of patients	130	120	68	35
Follow-up %		92 %	80 %	68 %

Bowel Lengths Measured during Surgery

	Mean	Range
TSBL	793cm	530 to 1035cm
CC	587cm	330 to 835cm
BP limb	212cm	250cm[32 pts] 200cm [n=74] 180cm [n=3] 150 cm [n=2] 100 cm [n=1]

Weight Loss

	BMI [kg/m2]	TBWL [%]
Pre-OP	45.8	-
1 yr	28.2	37.9
3 yr	27.4	40.7
5 yr	27.3	40.6

Remission of Diabetes

	% in Remission	Mean HbA1c [%]
Pre-OP	—------	7.5
1 yr	95.9	5.2
3 yr	97	5
5 yr	91.7	4.96

Surprisingly, there was no reduction in weight loss efficacy, even with longer common channel lengths

	No. of Patients	%TBWL – 1yr	3yrs	5yrs
CC of 400-500cm	16/112	38.56	40.88	43.3
CC of 500-600cm	27/112	38.97	41.16	39.54
CC of 600-700cm	36/112	39.68	41.92	41.32
CC of 700-800cm	15/112	37.34	37.44	43.8
CC >800cm	5/112	34.8	37.3	43.3

UNCONTROLLED Group ➔ HbA1c >8

Diabetes				
	Pre Op	1-yr	3-yrs	5-yrs
Total Number of patients	28/130	26	18	10
Mean HbA1c %	9.61	5.25	4.89	4.93
Range of A1C	8.1 - 16	4.7 - 6.7	4.8 - 5	4.8 - 5.1
Insulin usage %	59.10%	0%	0%	0%

Nutritional Stability ➔ Duodenal route also available !!!

Nutritional Factors	Pre-Op	1-yr	3-yrs	5-yrs
Hb	12.3	12.3	11.1	11.4
T Protein	7.3	7.3	7.4	7.6
Albumin	4.2	4.2	4.3	4.5
Calcium	9.2	8.9	8.2	--
Vit D3	25.2	30.5	28.3	29.2
Vit B-12	379.5	364	348	335
Iron	85.7	84.3	82.2	93.6

Complications

 # No mortality was seen in this study.

 # Minor Complications --4 patients (3.6 %) → nausea, vomiting and diarrhoea; managed conservatively.

 # Major Complications -- 2 patients (1.79 %) → dumping syndrome, hypoproteinemia and hypoalbuminemia → reduced quality of life
→ did not improve with medication
→ ➔ Required a partial reversal → Disconnection of the jejunal loop was done by a single stapler firing across the anastomosis

Comparison with Sleeve Gastrectomy

TWL [%]	Sleeve	SG + Jejunal Bypass
1 yr	26 to 35.7	37.9
3 yr	37.5	40.7
5 yr	26 to 35	40.6

% DM Remission	Sleeve	SG + Jejunal Bypass
1 yr	38.3	95.9
3 yr	24.5	97
5 yr	46.3; 27.5; 42.6	91.7

@ Magdalena M, Michał W, Katarzyna B;Type 2 Diabetes Remission 5 Years After Laparoscopic Sleeve Gastrectomy: Multicenter Cohort Study; OBES SURG (2021) 31:980–986.

@ Soong, T., Lee, M., Lee, W., Almalki, O.M., Chen, J., Wu, C., & Chen, S. (2021). Long-Term Efficacy of Bariatric Surgery for the Treatment of Super-Obesity: Comparison of SG, RYGB, and OAGB. *Obesity Surgery, 31*, 3391 - 3399.}

@Sharples AJ, Mahawar K. Systematic Review and Meta-Analysis of Randomised Controlled Trials Comparing Long-Term Outcomes of Roux-En-Y Gastric Bypass and Sleeve Gastrectomy. Obes Surg. 2020 Feb;30(2):664-672. doi: 10.1007/s11695-019-04235-2. PMID: 31724116.]

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Literature search – MGB v/s SASJ 200 pts

MGB had →shorter operating time

→Better weight loss

→Better comorbidity resolution

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Laparoscopic Single Anastomosis Sleeve-Jejunal Bypass vs Laparoscopic Mini-Gastric Bypass in Morbid Obese Patients and Resolution of Diabetes Mellitus, A Single Centre Experience

Ramy Helmy, Mostafa Nagy*, Amr H. Afifi

Department of General Surgery, Faculty of Medicine, Ain Shams University, Egypt

Comparison of 60 pts

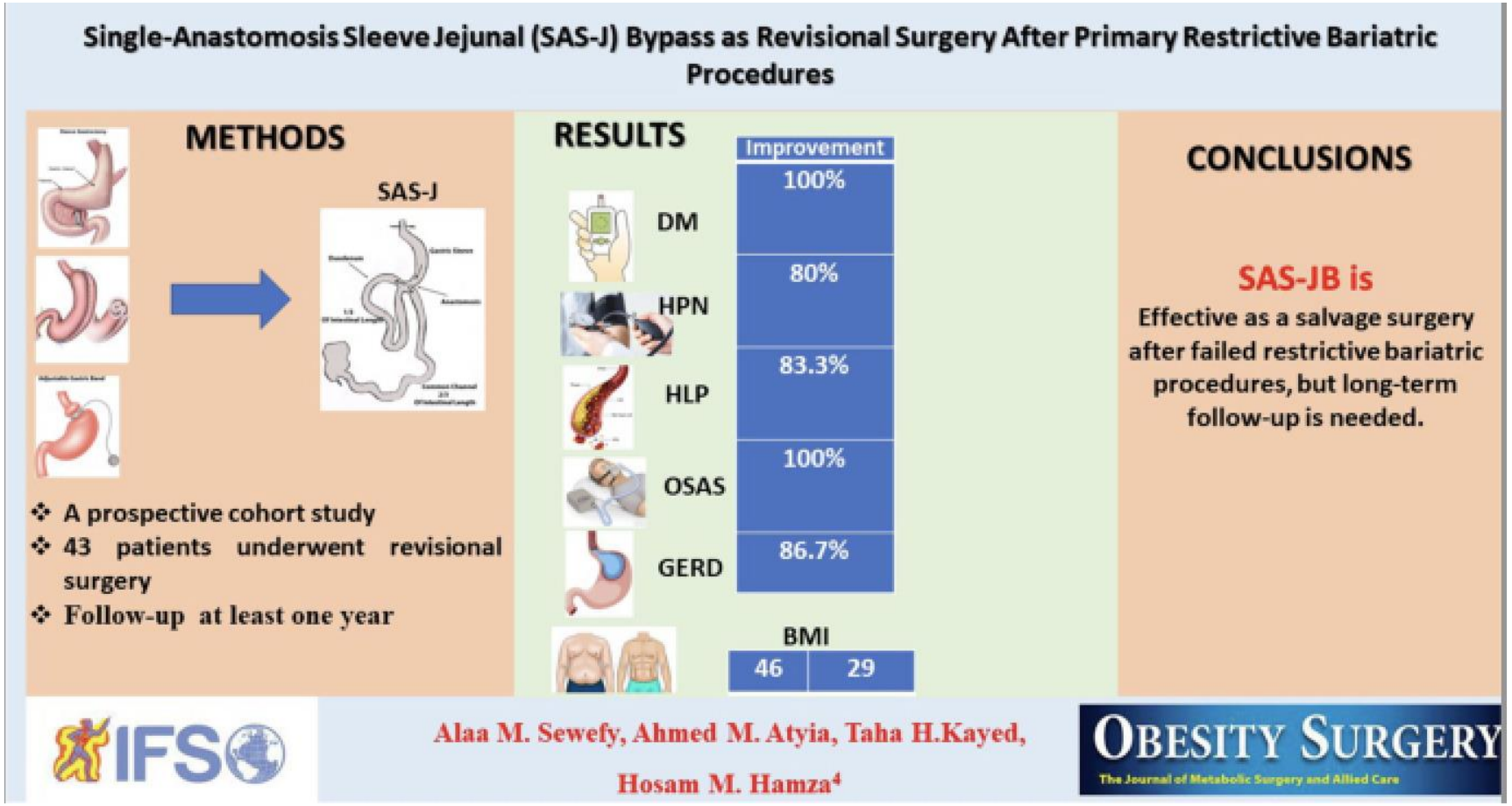
➔Both groups had comparative results and safety

➔SASJ had better weight loss

➔MGB had better DM resolution

ABDELZAHER, M., Ali, M., Mahran, K., Kamel, M. Comparative study between Laparoscopic mini-gastric bypass versus laparoscopic single anastomosis sleeve jejunal bypass for treatment of morbidly obese patients. *Minia Journal of Medical Research*, 2023; (): -. doi: 10.21608/mjmr.2023.227151.1488

Effective as a Revisional Procedure also



Comparison with other Procedures

***Weight loss at 3 years in this study (40.7%) was better than sleeve alone (37.5%), RYGB (28.9%–37.4%),**

and DJB (30.32%); while it was comparable to OAGB (27.7%–42.8%).

***Diabetes remission of 97% at 3 years was better than sleeve alone (24.5%); RYGB (37%–76.2%); OAGB (77.8%); and Jejunal Ileal Interposition {J-IISG} (73.3%)** *[Ugale S, Ugale A, Ugale A, Ram T. 10 year data on efficacy of diabetes and weight control by ileal interposition with sleeve – Sleeve plus procedure without any bowel exclusion. EC Endocrinol Metab Res 2020;5:11]*

What are you looking for ???

- Good Weight loss ? YES → Maintaining 40% TBWL at 5 yrs
- Good Glycemic control / Remission of DM ? YES → >90 %
- Endoscopic Access to all parts ? YES
- Easy Revision / Reversibility ? YES → Leaving a SLEEVE in place

Advantages & *CONCLUSION*

1. Maintains endoscopic access to the biliary tree
2. There is no excluded remnant stomach → important in countries with high incidence of gastric cancer.
3. No blind end - avoids bacterial overgrowth and blind loop syndrome.
4. Easy to perform - sleeve with a single anastomosis
5. If necessary, Partial Reversal can be done in a simpler manner compared to other bypass procedures [leaving a Sleeve in place]
6. Nutritional stability even at 5 years → both routes from stomach are open
7. Could be positioned as the main bypass procedure in Bariatric and Metabolic surgery

THANK YOU

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