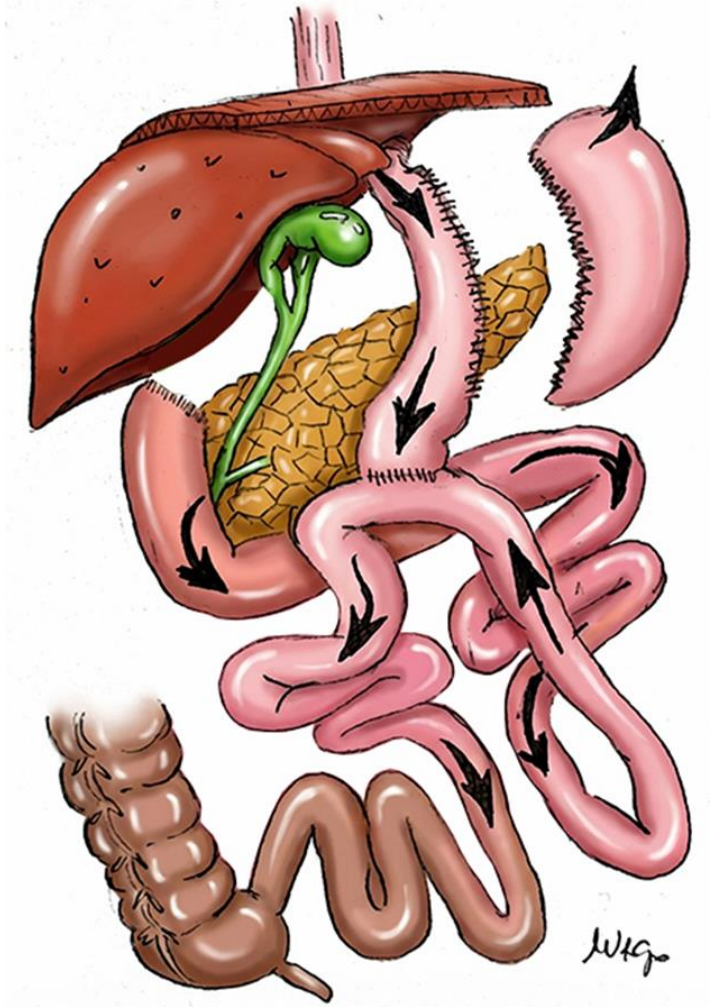
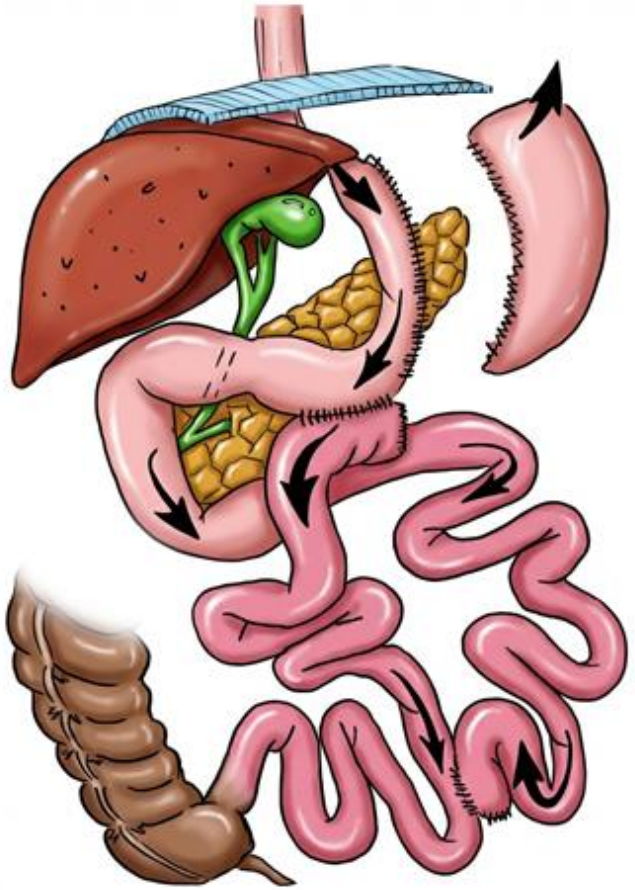
SADIS, SASI e Transit Bipartition: nuove procedure primarie o strumenti di revisione?

ANDREA LUCCHI MD FACS

UOC CHIRURGIA GENERALE E BARIATRICA RICCIONE



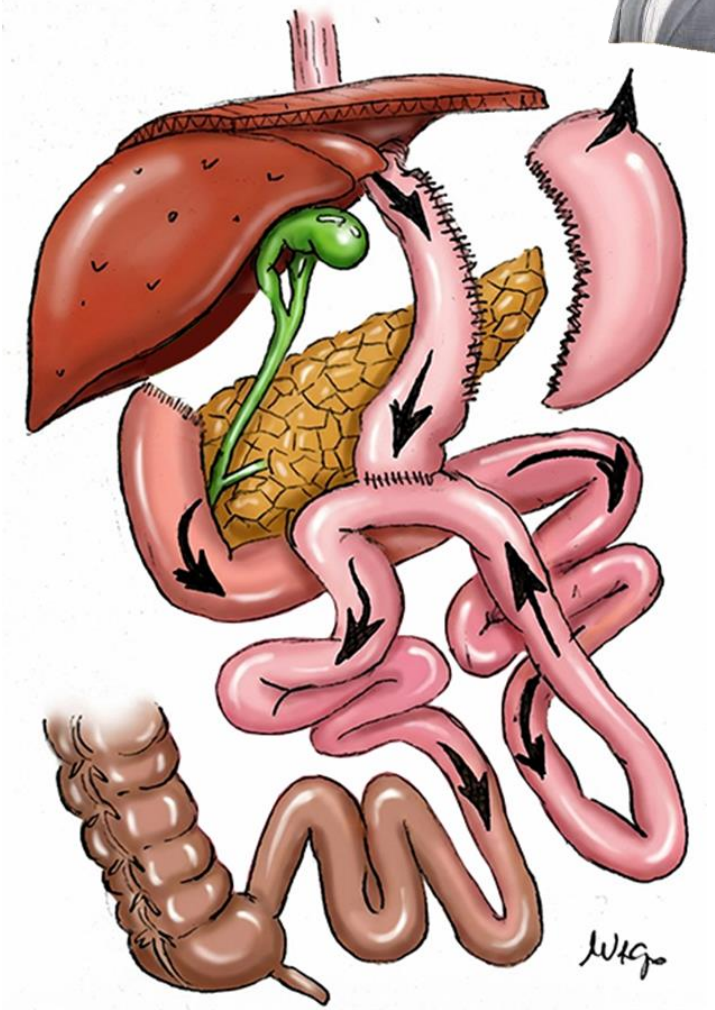
SADI-S



RYTB (Santoro Transit Bipartition)

OATB (SASI)

BIPARTIZIONI



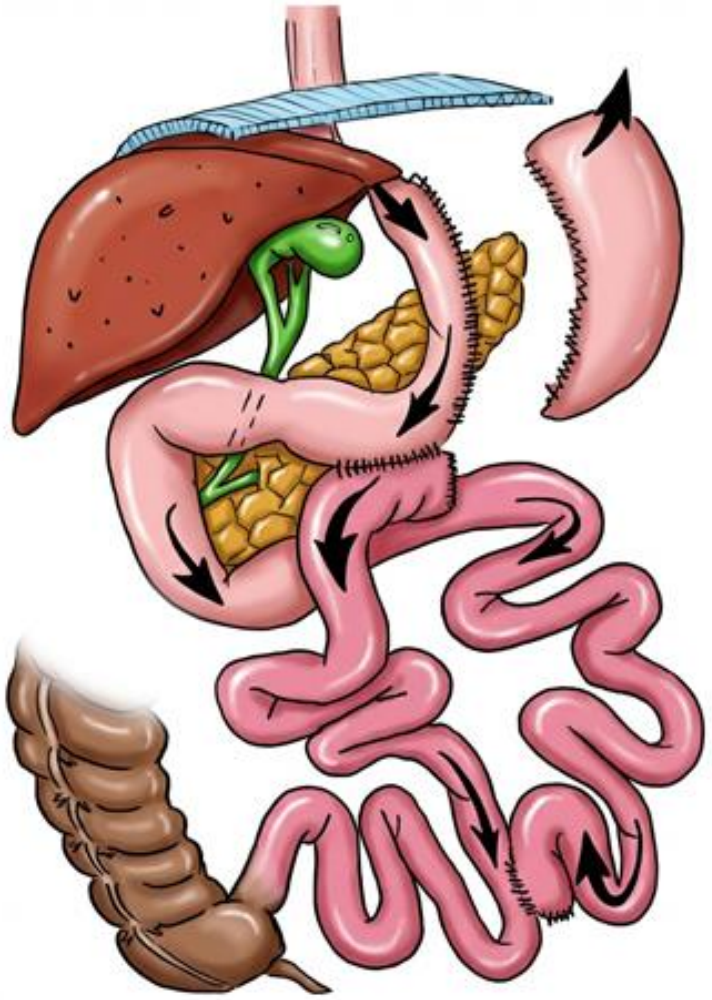
- **Descritta nel 2007 da torres come voluzione della la diversione bileopancreatica con duodenal switch BPD-DS**

- **Tecnica**
  - Sleeve gastrectomy, sezione del duodeno 2 cm sotto al piloro, anastomosi duodeno ileale a 300 cm dalla valvola ileocecale
  - Laparoscopica o robotica

- **Meccanismo d'azione**
  - restrittivo
  - ormonale
  - Ipoassorbitivo, i 2 cm di duodeno preservano da gravi squilibri metabolici

- **Indicazioni**
  - Superobesità con BMI >50
  - Obesità e diabete e/o sindrome metabolica
  - Recurrent weight gain specialmente dopo SG

- **E' una procedura consolidata e validata dalla società scientifiche**



RYTB (Santoro Transit Bipartition)

Obesity Surgery (2019) 29 (Suppl 4):S309–S345
https://doi.org/10.1007/s11695-019-04032-x

IFSO

CONSENSUS STATEMENT

Standardization of Bariatric Metabolic Procedures: World Consensus Meeting Statement

Mohit Bhandari[1] · M. A. L. Fobi[1] · Jane N. Buchwald[2] · and the Bariatric Metabolic Surgery Standardization (BMSS) Working Group:

- **La Transit Bipartition (RYTB) è stata descritta da Sergio Santoro nel 2012**

- **Tecnica**
  - Sleeve gastrectomy
  - Bypass gastro ileale a 250-300 cm dalla valvola ilececale
  - Ileal bridge con anastomosi ileo ileale 30-50 cm al di sotto
  - Doppio transito (2/3 gastro ileale, 1/3 duodenale)
  - Laparoscopica e robotica (Magnete prossimamente)

- **Meccanismo d'azione**
  - Restrittivo
  - Endocrino-metabolico: il transito precoce del cibo nell'ileo e contemporaneo nel duodeno-digiuno determinano un assorbimento "distale" dei nutrienti regolato anche dalla secrezione di entero-ormoni (GLP-1 in primis) che sono inoltre responsabili del senso di sazietà precoce.
- **Indicazioni**
  - Obesità patologica con BMI > 45
  - Obesità e diabete e/o sindrome metabolica
  - Recurrent weight gain specialmente dopo SG

- **Procedura under investigation**

OATB (SASI)

- **Variante della Transit chiamata One Anastomosis Transit Bipartion (OATB) è stata descritta da Mui nel 2014 mentre Tarek Mahdy nel 2016 ha definito la stessa variante come SASI (single anastomosis sleeve ileal).**
- **Tecnica**
  - Sleeve gastrectomy
  - Bypass gastro ileale a 250-300 cm dalla valvola ilececale con ansa ad Omega
  - Doppio transito (2/3 gastro ileale, 1/3 duodenale)
  - Laparoscopica e robotica (Magnete prossimamente)
- **Meccanismo d'azione**
  - Restrittivo
  - Endocrino-metabolico: il transito precoce del cibo nell'ileo e contemporaneo nel duodeno-digiuno determinano un assorbimento "distale" dei nutrienti regolato anche dalla secrezione di entero-ormoni (GLP-1 in primis) che sono inoltre responsabili del senso di sazietà precoce.
- **Indicazioni**
  - Obesità patologica con BMI > 45
  - Obesità e diabete e/o sindrome metabolica
  - Recurrent weight gain specialmente dopo SG
- **Procedura under investigation**

Obesity Surgery (2025) 35:3784–3790
https://doi.org/10.1007/s11695-025-08108-9

IFSO

RESEARCH

Check for updates

Five-Year Outcomes of Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy: A Systematic Review

Sergi Sanchez-Cordero[1,2] · Ruth Lopez-Gonzalez[1,2] · Rodrigo Hermoza[1] · Jordi Pujol-Gebelli[1,2]

Received: 23 May 2025 / Revised: 12 July 2025 / Accepted: 16 July 2025 / Published online: 29 July 2025

SADIS as primary procedure, 5 years follow up

- 1088 patients
- mean preoperative BMI was 49.66 kg/m2,
- At 5 years, follow-up data were available for 326 patients.
- 5 years: TWL of 33.67% EWL of 72.88%
- resolution rate of 80.5% (± 7.8%) for DM, 71.1% (± 14.1%) for HTN, 72.2% (± 15.8%) for OSA, and 70.5% (± 12.3%) for DLP
- Short-term complication rates 5.4% - 11.6%,
- 18 reoperations were recorded (ranging from 0.9% to 4.5%)with the most common causes being anastomotic leaks and hemoperitoneum.
- LOS of 3.7 days (SD 2.5).
- long-term complications 8.7% - 17.9%.
- reoperation rates 0.9% - 9.3%, (internal hernia obstruction, incarcerated trocar-site hernia, malnutrition, and weight regain, among others)
- Malnutrition-related reoperations were associated with a common channel length of 200 cm.
- albumin abnormalities in 6.9% and 2.7%, ferritin deficiencies in 10% and 56%, vitamin B12 deficiencies in 0% and 1%, and calcium deficiencies in 15.2% and 0%,
- Mortality rates were consistently low. (< 0.8) not ralted to surgical complications

Obesity Surgery (2025) 35:3784–3790
https://doi.org/10.1007/s11695-025-08108-9

IFSO

RESEARCH

Check for updates

Five-Year Outcomes of Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy: A Systematic Review

Sergi Sanchez-Cordero[1,2] · Ruth Lopez-Gonzalez[1,2] · Rodrigo Hermoza[1] · Jordi Pujol-Gebelli[1,2]

Received: 23 May 2025 / Revised: 12 July 2025 / Accepted: 16 July 2025 / Published online: 29 July 2025

Conclusions

SADI-S is an effective primary bariatric surgery technique, demonstrating sustained weight loss at 5 years (TWL > 30%, EWL > 70%) and a high resolution of metabolic comorbidities. Its safety profile is comparable to other techniques, although CC length influences malnutrition risk. Rigorous nutritional follow-up is essential to prevent deficiencies. However, the evidence remains limited, and long-term prospective studies are needed to establish its definitive role in bariatric surgery.

la SADI-S è eseguita in pochi centri in Italia

- Tecnicamente più complessa
- Timore delle complicanze (fistola duodenale) ?
- Timore del malassorbimento ?
- Alternative (OAGB ed oggi Bipartizioni)

Obesity Surgery (2024) 34:3639–3685
https://doi.org/10.1007/s11695-024-07490-0

REVIEW

Single Anastomosis Duodeno-Ileostomy with Sleeve Gastrectomy/Single Anastomosis Duodenal Switch (SADI-S/SADS) IFSO Position Statement—Update 2023

Guillermo Ponce de Leon-Ballesteros[1] · Gustavo Romero-Velez[1] · Kelvin Higa[1] · Jacques Himpens[1] · Mary O' Kane[1] · Antonio Torres[1] · Gerhard Prager[1] · Miguel F. Herrera[1]

Received: 25 June 2024 / Revised: 28 June 2024 / Accepted: 28 August 2024 / Published online: 12 September 2024

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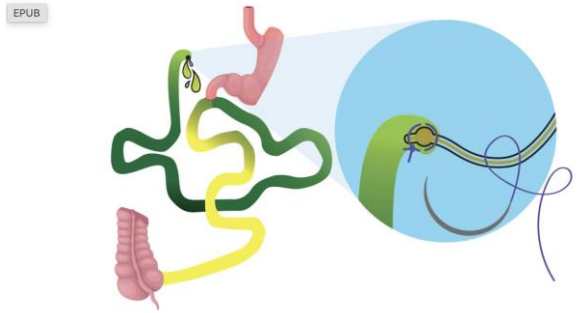
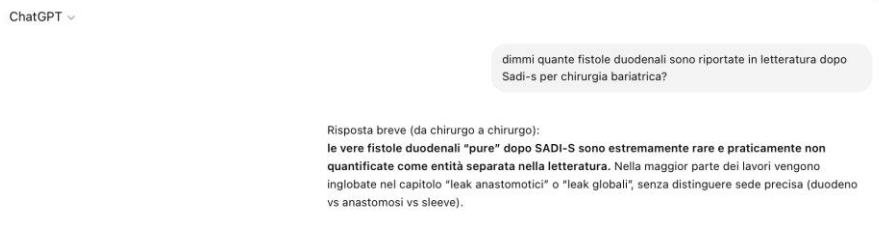
https://doi.org/10.1089/lap.2020.0798

Editorial

Management of Leak after Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy

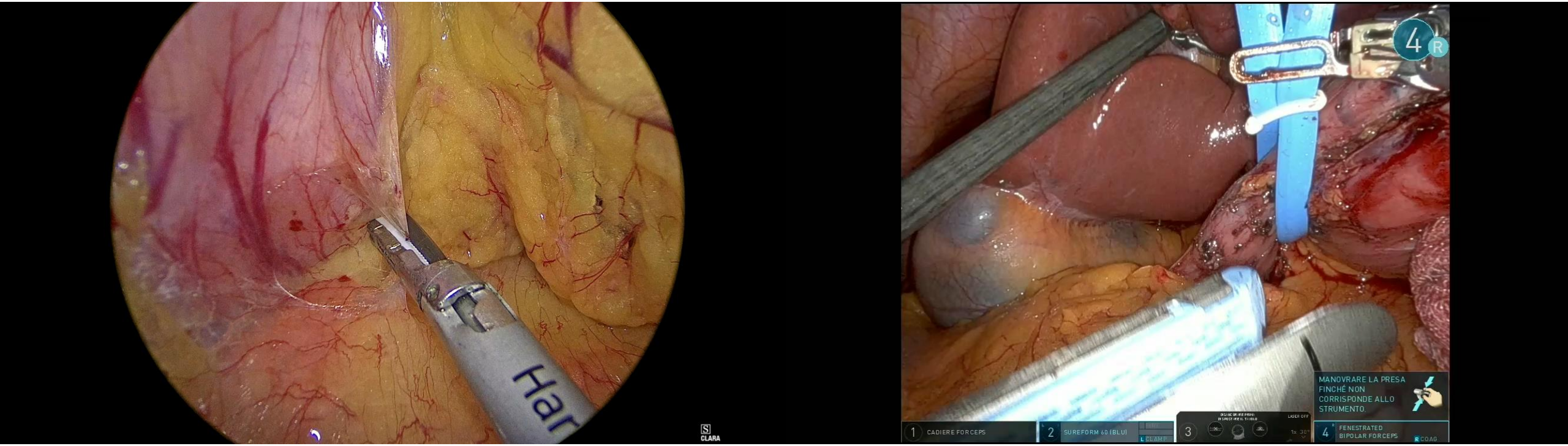
Arturo Cirera de Tudela, MD[1], Ramon Vilallonga, MD, PhD[2,3], Elena Ruiz-Úcar, MD[4], Jorge Pasquier, MD[1], José María Balibrea del Castillo, MD, PhD[5], Anamaria Nedelcu, MS[3], José Manuel Fort, MD, PhD[2], and Manuel Armengol Carrasco, MD, PhD[1]



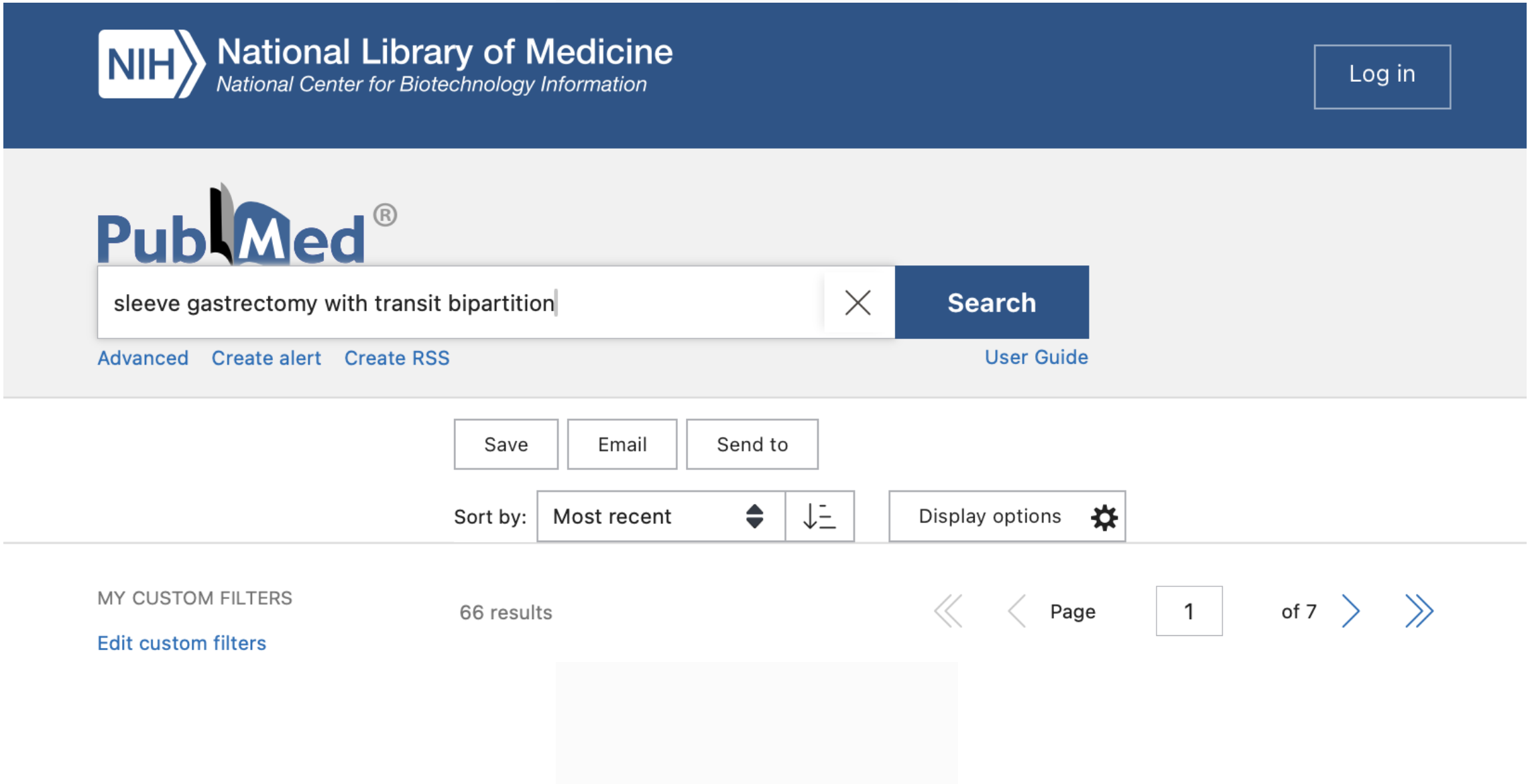


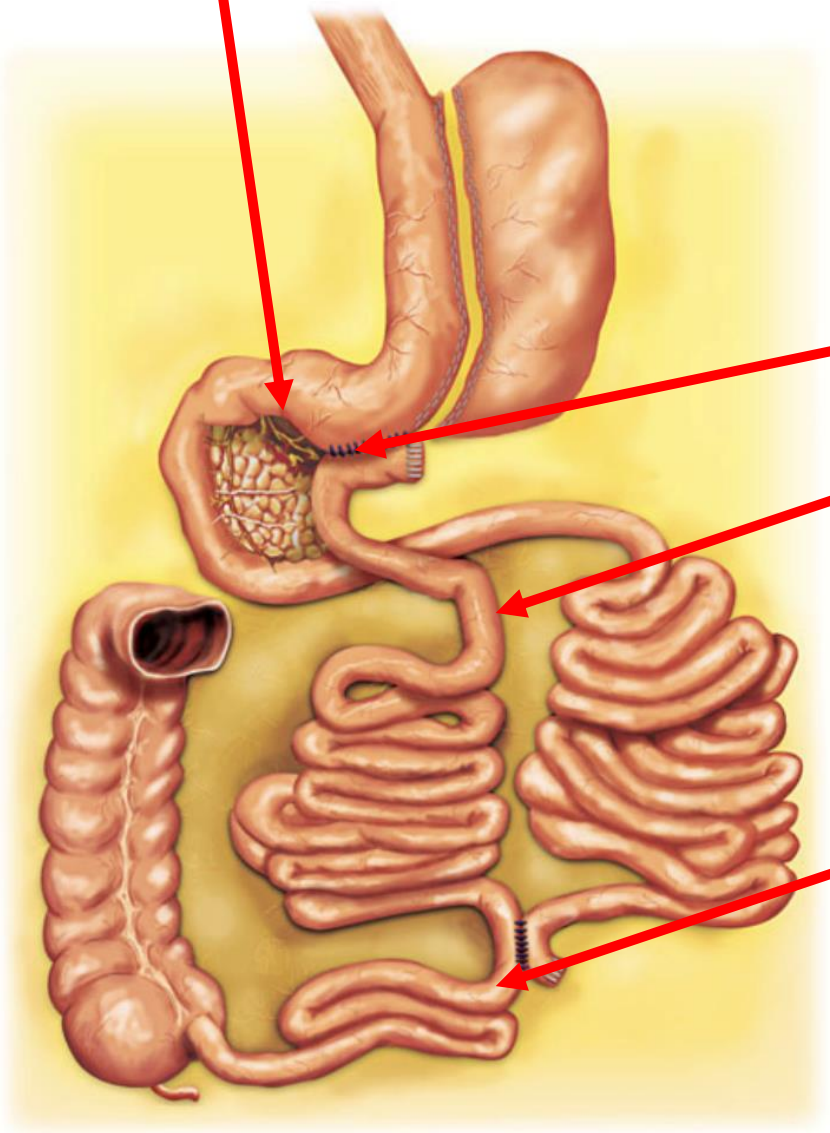
0.13%

A total of 145 gastrointestinal leaks or perforations were registered, comprising 52 anastomotic leaks, 24 gastric sleeve leaks, 12 duodenal stump leaks, 6 small bowel perforations, and 48 unspecified cases. Out of these, 107 (73.8%) occurred in the 8242 primary cases (1.3%), while 38 were in the 948 revisional cases (4%). A comparison among


CLARA
4 R
MANOVRARE LA PRESA FINCHÉ NON CORRISPONDE ALLO STRUMENTO.
1 CADIERE FORCEPS
2 SUREFORM 60 (BLUE)
L CLAMP
3
LASER OFF
4 FENESTRATED BIPOLAR FORCEPS
R COAG

Roux en Y Transit Bipartition RYTB





GURE 1. Didactic scheme of sleeve gastrectomy with transit partition.

ORIGINAL ARTICLE

2012

Sleeve Gastrectomy With Transit Bipartition

A Potent Intervention for Metabolic Syndrome and Obesity

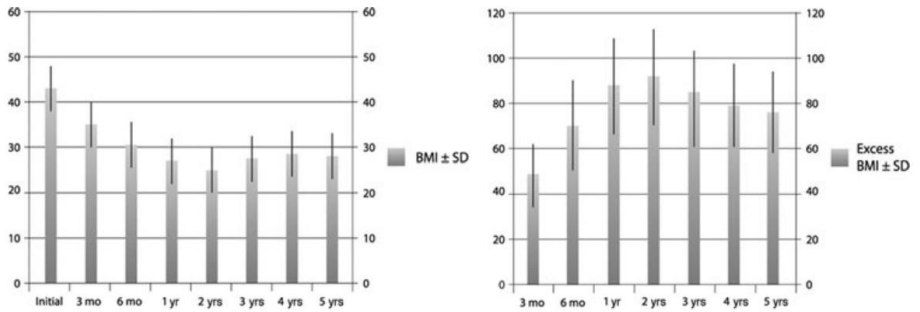
Santoro, MD,* Luis Carlos Castro, MD,† Manoel Carlos Prieto Velhote, MD, PhD, FACS,‡
Eduardo Malzoni, MD, FACS,* Sidney Klajner, MD, FACS,* Leandro Perandin Castro, MD,†
Arnaldo Lacombe, MD,* and Marco Aurélio Santo, MD, PhD‡

1020 casi a 5 anni

TABLE 2. Clinical Resolution and Improvement of Comorbidities After SG + TB

Condition	Resolved	Improved
Orthopedic problems	83%	17%
Arterial hypertension	72%	28%
Type 2 diabetes	86%	14%
Hypertriglyceridemia	85%	15%
Hypercholesterolemia	70%	30%
Respiratory problems	91%	9%

occur. Some patients temporarily presented low albumin levels, during some complication. Fortunately, there are no cases of chronic hypoalbuminemia. High levels of parathyroid hormone and low levels of vitamin D and B_1 (thiamine) were frequently observed preoperatively (around 60% and 40%, respectively). Nutritional supplementation was started before surgery for many patients. These conditions frequently required continued supplementation of calcium, cholecalciferol, and thiamine postoperatively (the latter, in common multivitamin tablets). Anemia was rarely a problem and usually temporary. Around 7% maintain hemoglobin below 12 g/dL, and this occurs especially when menstrual losses are excessive. No one developed a chronic anemia below 10 g/dL (including the rare minor thalassemic patients of the group). Low plasmatic zinc was also eventually observed, but no supplementation was needed beyond the multivitamin tables. In general, the nutritional status was excellent.



aphic on the left shows the evolution in BMI (Kg/m^2) + SD (black bars over the columns). Graphic c

Obesity Surgery (2026) 36:482–490
https://doi.org/10.1007/s11695-025-08395-2

RESEARCH

Medium-Term Comparative Results of Transit Bipartition and Biliopancreatic Diversion with Duodenal Switch in Patients with a BMI ≥ 50

Philippe Topart[1] · Marie Bougard[1] · Guillaume Becouarn[1] · Jean-Baptiste Finel[1] · Maxime Roulet[1] · François Rade[1]

Received: 22 September 2025 / Revised: 29 October 2025 / Accepted: 10 November 2025 / Published online: 22 December 2025

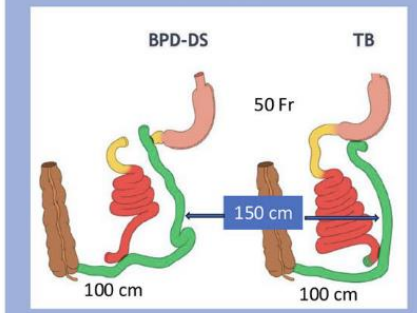
Table 3 Caracteristics and medium-term results of TB and SASI series

	TB/SASI	Nb patients	Sleeve size (Fr)	AL/CC	30-day complications	Women	BMI	FU (months)	Weight loss
Santoro Ann Surg 2012 [5]	TB	1020	36	260/80	6%	68.1%	42.2 (33–72)	60 (36 patients)	74±22.5%EBMIL
Kırkıl Obes Surg 2025 [10]	TB	56	40	300/150	N/A	51.8%	40.8 (32.5–58.1)	71	Mean BMI 24.8
Çalışır Obes Surg 2021 [8]	TB	32	N/A	230/80	12%	53%	44.70±9.34	30.22±6.74	77.2%EWL 33.8%TWL
Al Obes Facts 2022 [7]	TB	355	39/45	260/100–200	8.6%	58%	34.0 (28.0–50.5) 34% BMI>35	24	87.7±35.2% EBMIL 20.2±6.1% TWL
Ribeiro Obes Surg 2024 [11]	SASI	68	36	250–300	2.9%	75%	41±5.8	Up to 60 (11 patients)	31,1±13%TWL
Aghajani SurgEndosc 2023 [6]	SASI	366	32	300	2.5%	78%	43.9 ± 6.5	48 (49 patients)	93%EWL
Khalaf Obes Surg 2021 [9]	SASI	322	40	250–300	4% major	61.5%	50.1±7.7	24 (204 patients)	96.7±5%EWL 49±7.6%TWL
Reiser Ann Surg 2021 [22]	SASI*	100	N/A	250–300	6%	79%	Initial 50	22	75%

* revisional SASI after sleeve gastrectomy

Medium-Term Comparative Results of Transit Bipartition (TB) and Biliopancreatic Diversion With Duodenal Switch (BPD-DS) in Patients with a BMI ≥50

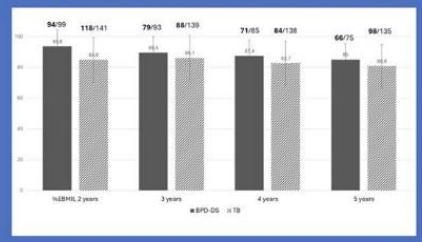
METHOD



99 most recent BPD-DS (2012-2023)
141 TB (2017-2023)
Laparoscopic primary surgeries
Initial BMI 54.3 ± 4.7 and 53.6 ± 4.6 kg/m²

RESULTS

TB: 92 ± 15′ BPD-DS: 149 ± 30′
Early complications similar 7% and 5.7%
Revisions 4.2% TB and 9% BPD-DS
Significantly less side effects after TB



5 year BPD-DS/TB follow-up rate 88/72.6%

CONCLUSION

Faster surgery/shorter hospital stay
Weight loss not ≠ after 5 years although drop-out in follow-up

Transit Bipartition represents a valuable alternative to BPD-DS with less side effects but risk of malnutrition still exists

(Please keep this space clear for review purposes)

Obesity Surgery (2018) 28:3012–3019
https://doi.org/10.1007/s11695-018-3239-3

ORIGINAL CONTRIBUTIONS

A Prospective Randomized Controlled Trial of the Metabolic Effects of Sleeve Gastrectomy with Transit Bipartition

Fernanda R. Azevedo[1] · Sergio Santoro[2] · Maria L. Correa-Giannella[3,4] · Marcos T. Toyoshima[5] · Daniel Giannella-Neto[4] · Daniela Calderaro[1] · Danielle M. Gualandro[1] · Pai C. Yu[1] · Bruno Caramelli[1]

Published online: 27 April 2018

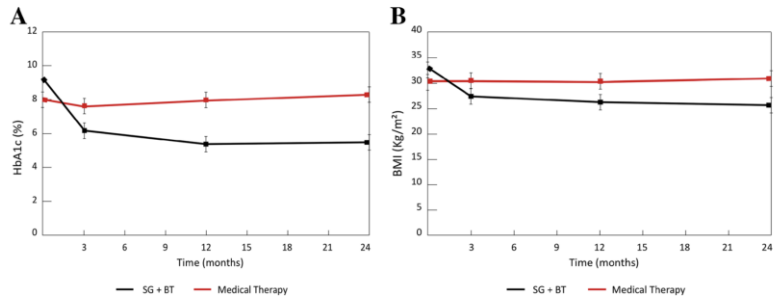
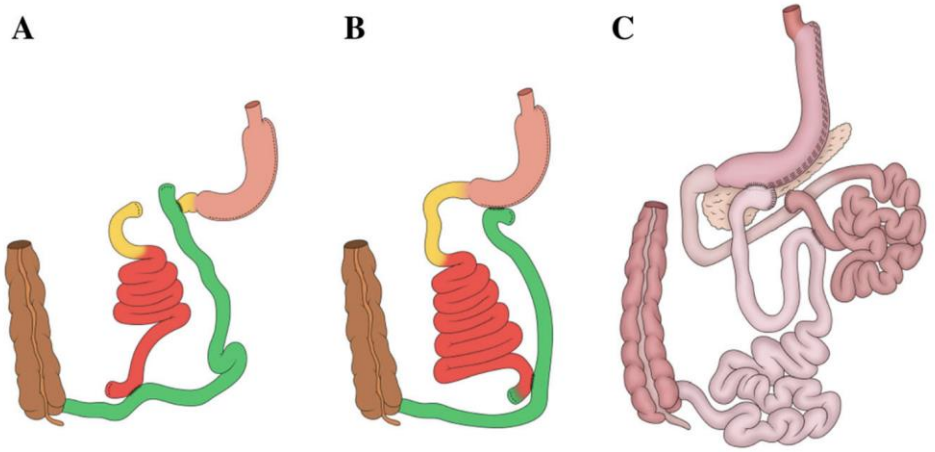


Fig. 3 Changes in glycated hemoglobin and BMI throughout the study

Metabolic Surgery

SG + TB (Fig. 2) was performed with 10 patients by one surgeon (SS), between May 2014 and May 2015. The laparoscopic procedure was described in detail in a previous article [6] and video [9] (Fig. 2). In this study, the gastro-ileo-anastomoses were 3 cm wide and were performed 250 to 260 cm from the ileocecal valve; in these cases, the resulting common channel was 120–130 cm from the ileocecal valve. Patients adhered to a liquid diet for 12 days after discharge that was gradually progressed after this time. No gallstone prevention was prescribed.



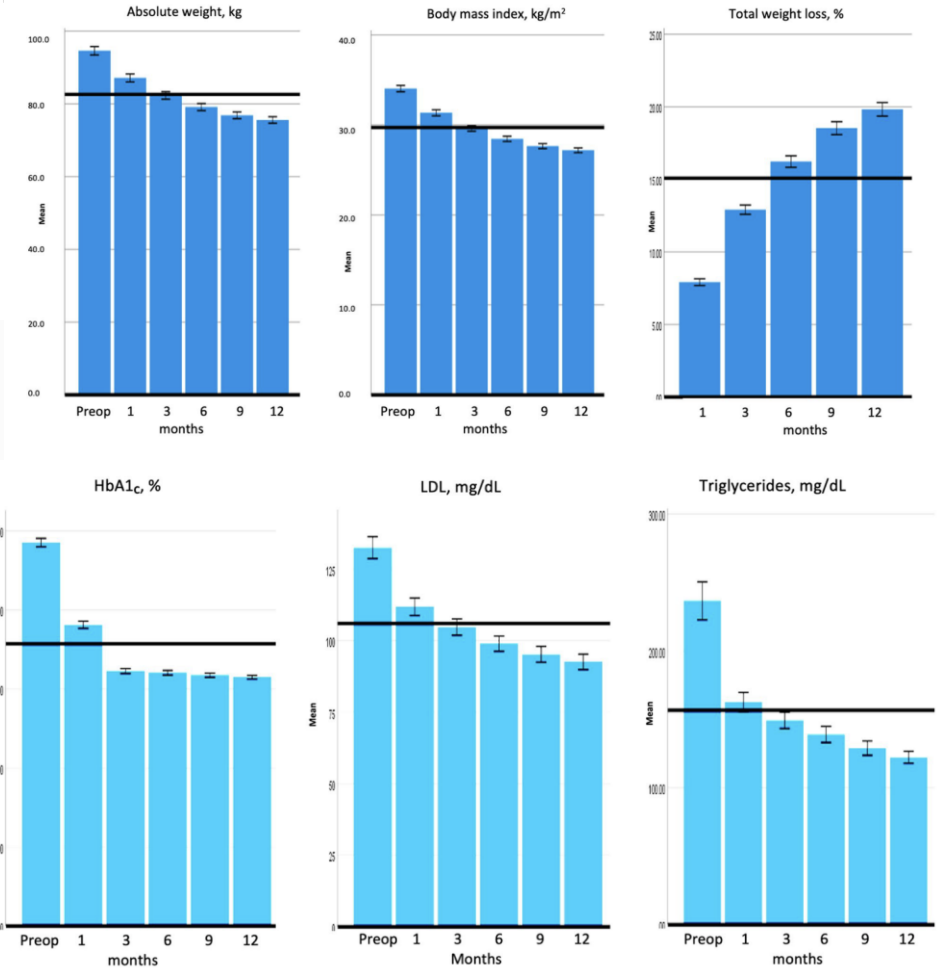
Surgical Endoscopy (2022) 36:2631–2642
https://doi.org/10.1007/s00464-021-08769-4

Sleeve gastrectomy with transit bipartition in a series of 883 patien with mild obesity: early effectiveness and safety outcomes

Muzaffer Al[1] · **Halit Eren Taskin**[2]

Received: 9 March 2021 / Accepted: 9 October 2021 / Published online: 20 October 2021

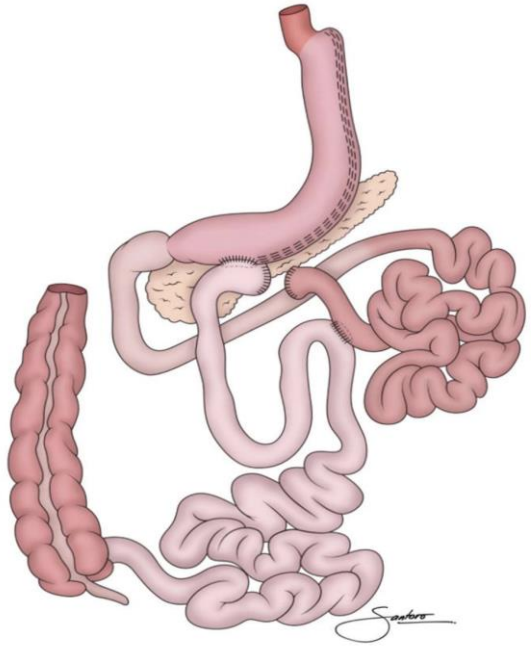
In all patients, the gastro-ileal anastomosis was made 260 cm from the ileocecal valve. In patients with a BMI < 30.0 kg/m^2, the common channel was established at 150–200 cm, and in patients with a BMI ≥ 30.0 kg/m^2, the common channel was limited to 100–150 cm. The gastro-ileal anastomosis was constructed with a 45-mm Tri-Staple™ (Medtronic, Minneapolis, MN) at the antrum, 2 cm from the pylorus. The anastomosis was 35 mm in length as calibrated using the 3-mm width of this stapler. To perform the ileo-jejunostomy to create the common channel, a



Updates in Surgery (2025) 77:2145–2150
https://doi.org/10.1007/s13304-025-02343-6

ORIGINAL ARTICLE

Common channel length and implications to the weight loss



Sérgio Santoro[1] · Filippe Camarotto Mota[1,2] · Caio Gustavo Gaspar de Aquino[1] · Eudes Paiva de Godoy[3]

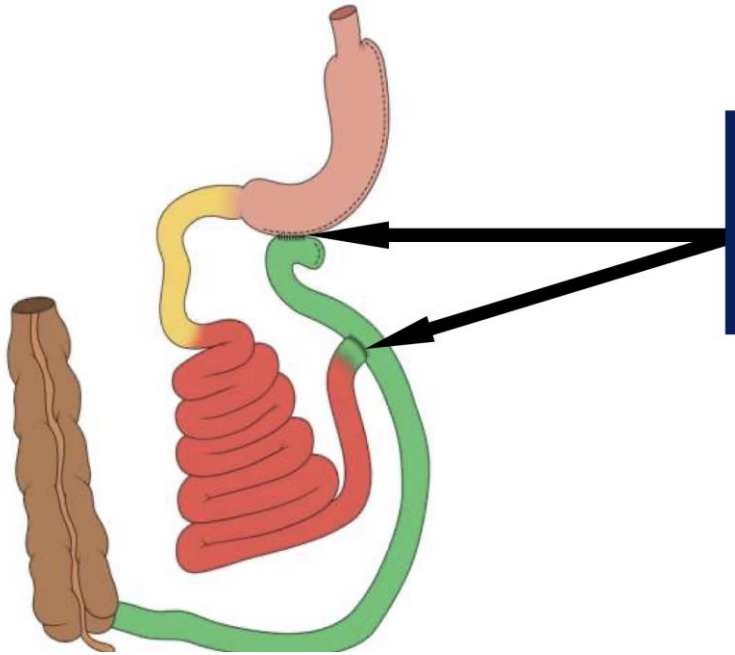
Received: 28 November 2024 / Accepted: 27 July 2025 / Published online: 15 August 2025

Abstract

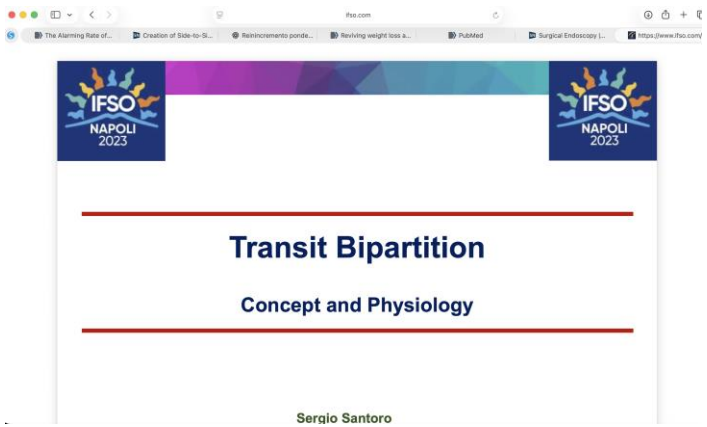
To present and analyze the results of sleeve gastrectomy with transit bipartition (SG + TB) with three different lengths of common channel (CC) and its implications for the weight loss and signals of residual malabsorption. A total of 790 patients (BMI ranging from 27.7 to 59 kg/m2) with obesity and metabolic syndrome were submitted to a SG + TB between 2011 and 2021. The length of the CC was increased 2 times in this period, creating 3 comparable groups where the size of the CC was the only significant difference among them, respectively: 80–100 cm; 120–150 cm; 200–220 cm. The groups were analyzed in real time. The percentual loss of excessive body mass index (EBMIL%) and the percentual of patients with signals of residual malabsorption were compared at 3 years after surgery. The longest CC (200–220 cm) was associated with significantly rarer events of liquid stools, as expected. In spite of less signals of malabsorption, EBMIL% is similar in the 3 groups, being slightly better in the longest CC ($p < 0.05$). The elongation of the ileal CC to 200–220 cm in the SG + TB profoundly reduced the circumstantial events of liquid stools, as expected. However, in spite of less signals of residual malabsorption, the weight loss was not diminished. The proposed explanation is that the presence of bile in the ileum may improve its endocrine activity. Longer common channels in the ileum did not reduce weight loss.

Keywords Bariatric surgery · Metabolic surgery · Enterohormones · Bile acids · FGF-19

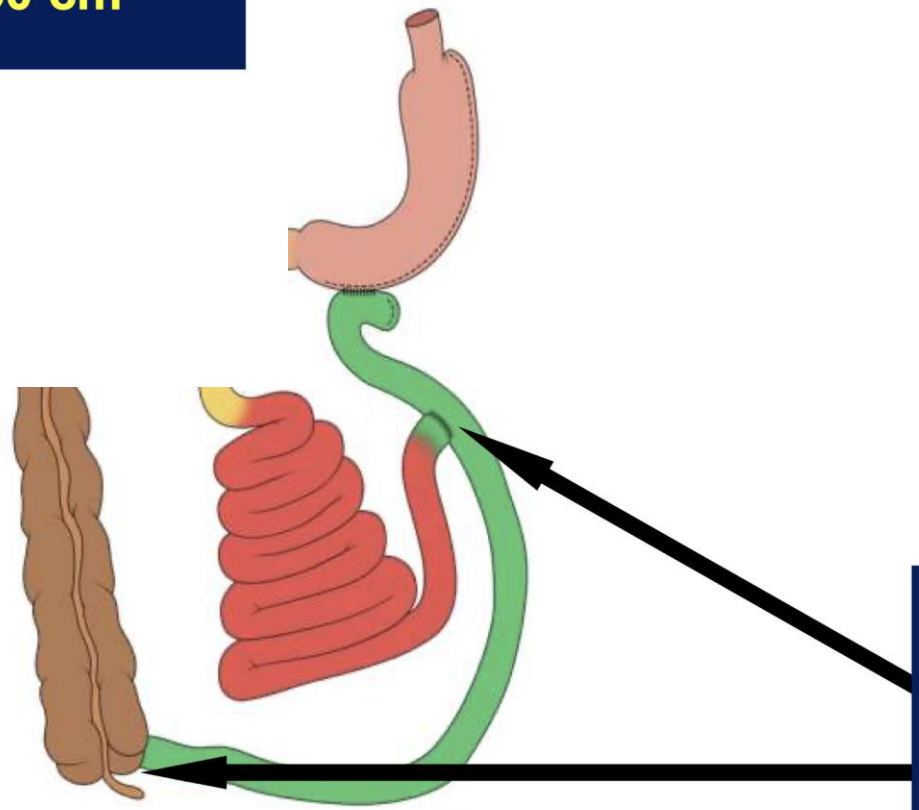
Bipartition



Protection against enterogastric reflux
30-50 cm



Bipartition



Extra-long Common Channel
250 cm

RYTB: il problema della standardizzazione

- Common channel > 220, ileal bridge 30-50 cm
- Anastomosi gastro ileale 30-45 mm
- Distanza dal piloro 2-3 cm

ROBOTIC SLEEVE GASTRECTOMY WITH TRANSIT BIPARTITION

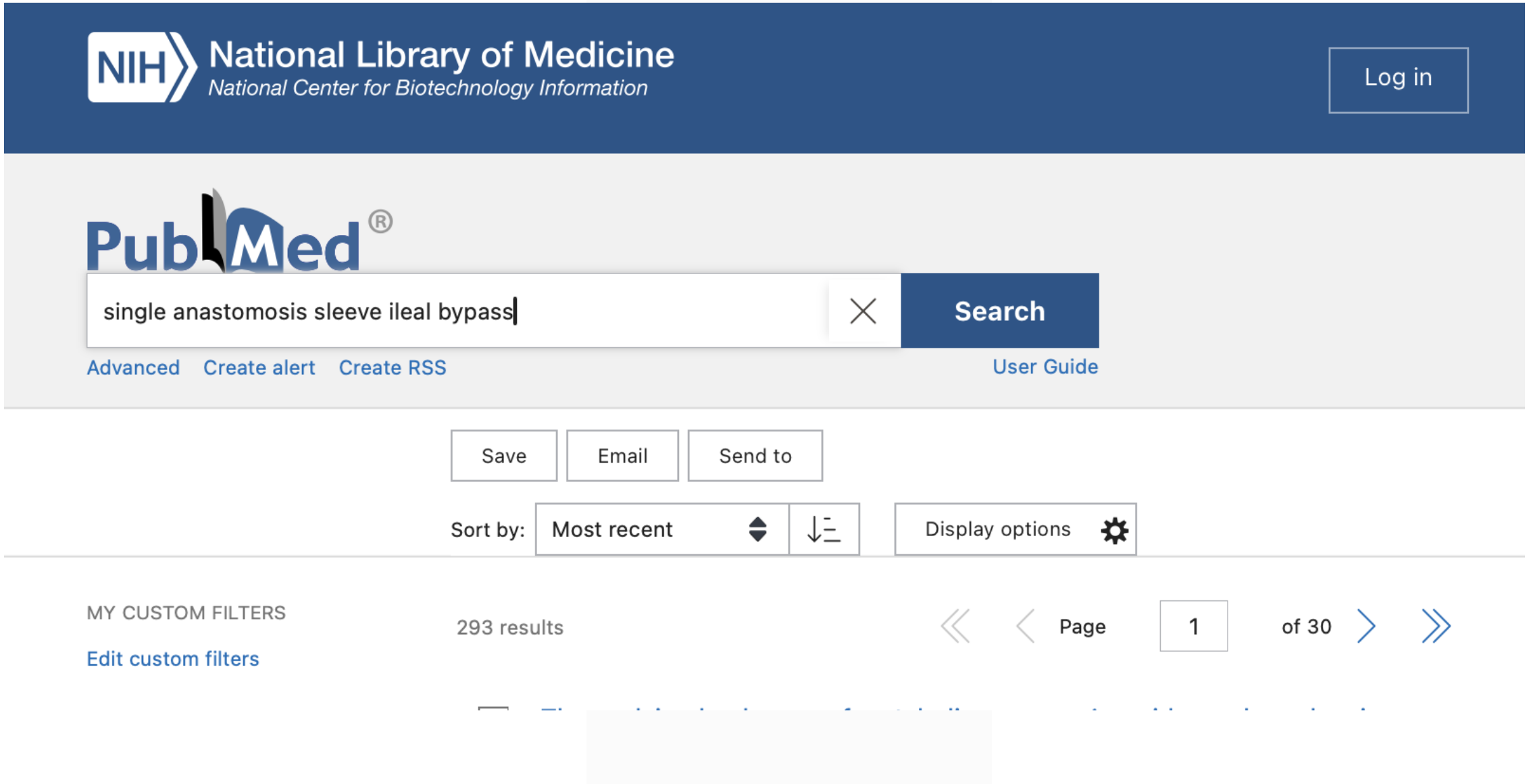
Casistica RYTB Riccione

Da febbraio 24 ad aprile 26
44 pz, 33 VL ed 11 Robotiche
BMI medio pre 50
Tutti con diabete e/o sindrome metabolica
Tempo operatorio medio VL 120 minuti

	bmi	ewl
1mese	46,2	16
3mesi	41,3	30,6
6 mesi	38,4	43,9
12 mesi	31,7	63,6
24 mesi	28	79

Complicanze
(CD1-2) 13.6% 2 polmoniti 1 disidratazione 3 infezione accessi trocar 1 sanguinamento rima sutura (CD1-2)
(CD 4) 2.2% 1 perforazione colica (CD 4)

Single anastomosis sleeve ileal bypass SASI o OATB



EWL% 63.07%, 82.44% and 93.21% after 6, 12 , 24 months
TWL 27.33, 34.50 and 38.02 after 6,12, 24 months

Obesity-associated medical problems remission
Diabetes 92.78% hypertension 80.43% dyslipidemia 83.63% GERD 81.40%, OSA 86.65%

Complications
mean complication rate of 13.70%
Grades I–II 7.74%,
III–IV 5.18%,
Grade IV 1.04%
No deaths (Grade V) were reported.

Surgical Endoscopy (2026) 40:1536–1548
https://doi.org/10.1007/s00464-025-12421-w

Single anastomosis sleeve ileal (SASI) bypass outcomes and complications: single-arm meta-analysis

Josélio Rodrigues de Oliveira Filho[1,2] · Pedro Bicudo Bregion[3] · Rafaela Hamada Juca[3] · Giulia Almiron da Rocha Soares[4] · Marina Mordehachvili Burla[5] · Victor Kenzo Ivano[3] · Cornelia L. Griggs[1,2]

Received: 19 August 2025 / Accepted: 11 November 2025 / Published online: 1 December 2025

Abstract

to over two years postoperatively.

Nutritional biomarker analysis revealed no statistically significant changes in albumin, vitamin B12, vitamin D, or hemoglobin levels at 12 months, as all pooled confidence intervals included zero. Although heterogeneity was high, these findings suggest that, on average, SASI bypass does not lead to major deficiencies in key nutritional markers during the first postoperative year. While some individual studies reported nutritional deficiencies, occasionally requiring revision, these outcomes do not reflect the overall trend across cohorts. The preserved digestive continuity in SASI

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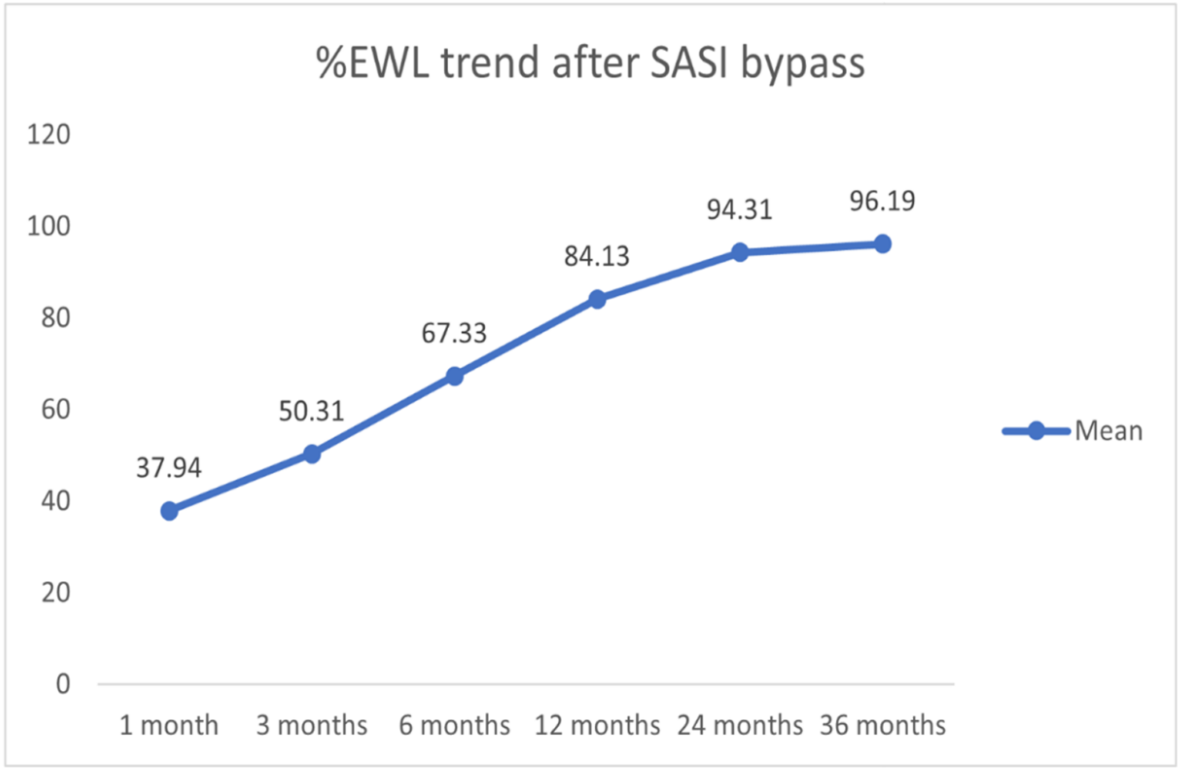

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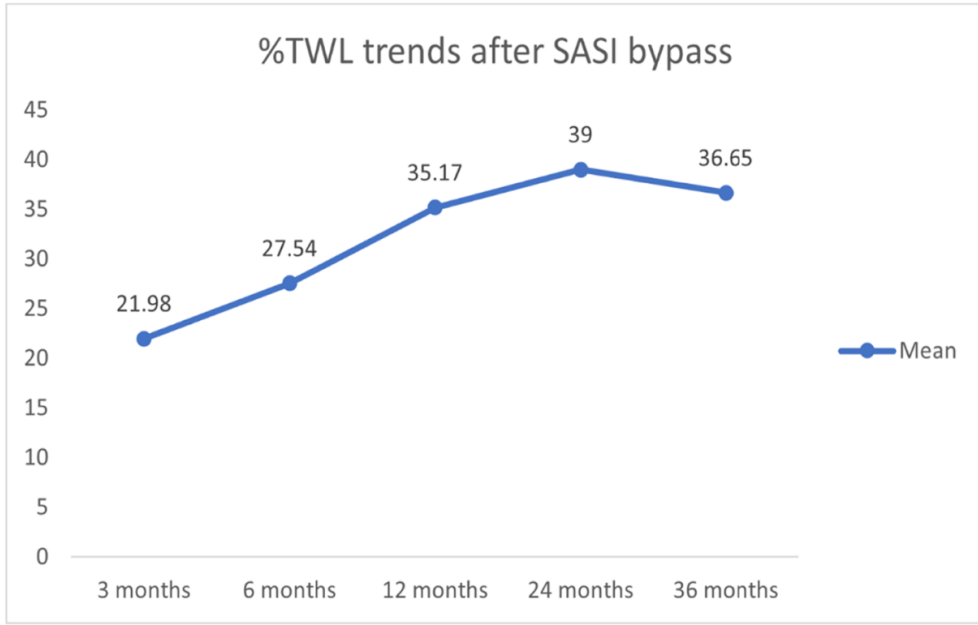

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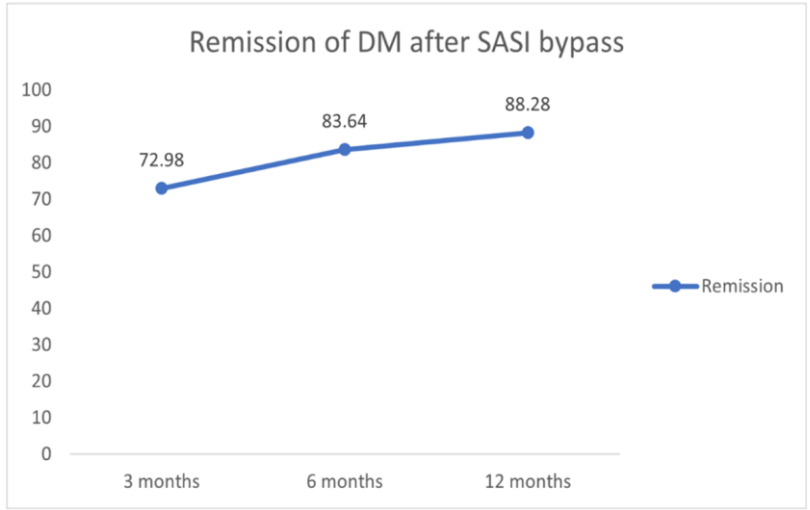

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Obesity Surgery (2024) 34:3285–3297
https://doi.org/10.1007/s11695-024-07366-3

IFSO

ORIGINAL CONTRIBUTIONS

Check for updates

Outcomes of Single Anastomosis Sleeve Ileal (SASI) Bypass as an Alternative Procedure in Treating Obesity: An Updated Systematic Review and Meta-Analysis

Karim Ataya[1] · Neha Patel[2] · Almoutuz Aljaafreh[3] · Samah Sofyan Melebari[4] · Wah Yang[5] · Camilo Guillen[6] · Hussein El Bourji[7] · Lubna Al-Sharif[8] on behalf of on behalf of Global Obesity Collaborative

Received: 25 February 2024 / Revised: 9 June 2024 / Accepted: 14 June 2024 / Published online: 26 July 2024

Obesity Surgery (2024) 34:3285–3297
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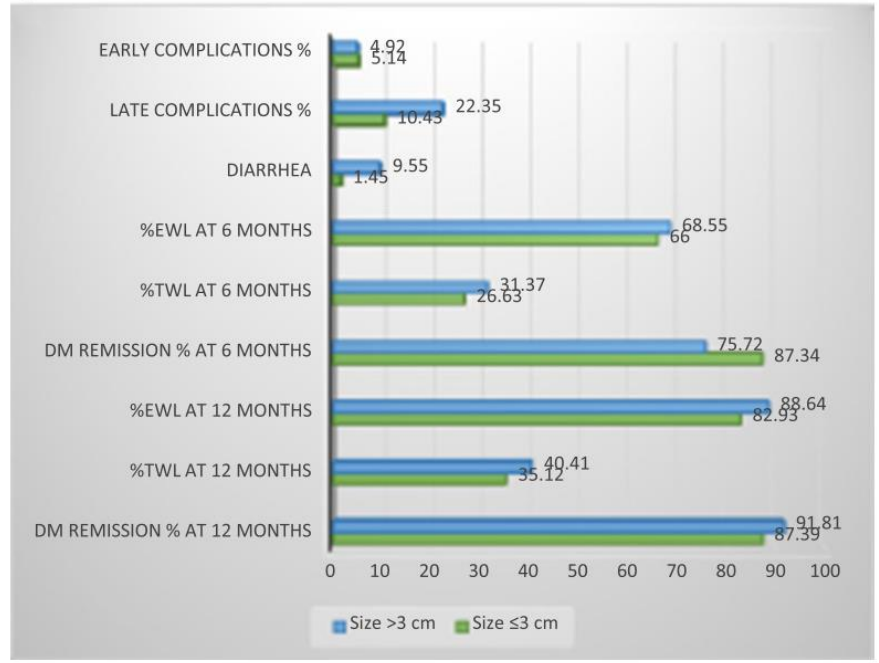


OATB o SASI: standardizzazione

- 300 cm dalla valvola
- Gastro-ileo 30-45 mm
- Distanza dal piloro 2-3 cm
- Per RYTB ileal bridge 30-50 cm

continuing down to the pylorus.

The sleeve gastrectomy (SG) is performed by stapling over a 42 French bougie using the Endo GIA™ 60 mm medium/thick (purple) reloads with Tri-Staple™ technology (Medtronic) starting 5 cm from pylorus up to 1 cm away from the angle of His. The staple line was oversewed with a 3–0 absorbable monofilament suture. The stomach is opened 5 cm from the pylorus at the antrum, and the bowel is measured, marking the anastomosis at 300 cm from the ileocecal valve. A stapled gastro-ileal anastomosis is performed 4 cm in width, followed by a methylene blue leak test. The anastomosis was fashioned at 4 cm because at that time we did not want it to be too wide not allowing food to go through

Obesity Surgery (2024) 34:1742–1747
https://doi.org/10.1007/s11695-024-07192-7

IFSO

ORIGINAL CONTRIBUTIONS

Check for updates

The Alarming Rate of Malnutrition after Single Anastomosis Sleeve Ileal Bypass. A single Centre Experience

Ala Wafa[1] · Ahmad Bashir[2] · Ricardo V. Cohen[3] · Ashraf Haddad[2]

Received: 13 February 2024 / Revised: 19 March 2024 / Accepted: 20 March 2024 / Published online: 27 March 2024

Abstract

Table 3 Complications 1 year after SASI

Test	Low Hemoglobin	Low Albumin	Low iron	Low Vit D	Low Vit B12
Number of patients (%)	21(70%)	6(20%)	21(70%)	19(63.33%)	2(6.66%)
Mean results at 1 year after surgery for all 30 patients	8.75 g/dl	3.3 g/dl	34.3 mcg/dl	25.73 ng/ml	482 pg/ml
Mean results at 1 year after surgery for the 6 patients requiring revision	8.1 g/dl	2.6 g/dl	23.6 mcg/dl	16.8 ng/ml	282 pg/ml

Table 4 Summary of key laboratory results of cases requiring revision

Test	Time from SASI to presentation (months)	Haemoglobin (11.0–16.0 g/dl)	Albumin (3.5–5.0 g/dl)	Iron (37–145 mcg/dl)	Vitamin D (30–50 ng/ml)	Vitamin B12(176–1100 pg/ml)
Case 1	12	7.2 g/dl	1.9 g/dl	19 mcg/dl	7 ng/ml	113 pg/ml
Case 2	16	6.3 g/dl	2.4 g/dl	21 mcg/dl	14 ng/ml	234 pg/ml
Case 3	23	8.3 g/dl	2.9 g/dl	23 mcg/dl	12 ng/ml	331 pg/ml
Case 4	12	7.4 g/dl	2.3 g/dl	19 mcg/dl	17 ng/ml	132 pg/ml
Case 5	3	9.7 g/dl	3.6 g/dl	39 mcg/dl	26 ng/ml	433 pg/ml
Case 6	15	7.3 g/dl	3 g/dl	23 mcg/dl	13 ng/ml	345 pg/ml

🔬 Tabella 1 – Weight loss (letteratura)

Parametro	Transit Bipartition	SASI	SADI-S
%EWL 12 mesi	65–80%	75–90%	80–95%
%EWL 24 mesi	70–85%	80–90%	85–100%
%TWL	20–30%	25–35%	30–40%
Durata effetto	stabile	stabile	molto stabile
Evidenza	non inferiore a RYGB Springer	superiore a SG PMC	superiore a SG e duratura iris.unisr.it

🧬 2. RISULTATI METABOLICI

Tabella 2 – Comorbidità

Outcome	Transit Bipartition	SASI	SADI-S
Diabete tipo 2	60–85%	70–95%	80–95%
HbA1c	↓ significativa	↓ marcata	↓ molto marcata
Ipertensione	60–80%	60–80%	70–90%
Dislipidemia	60–75%	65–85%	70–90%
OSAS	40–80%	60–90%	40–96% oaepublish.c...

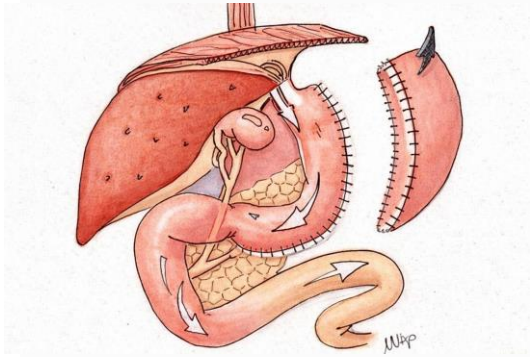
Tabella 3 – Complicanze perioperatorie

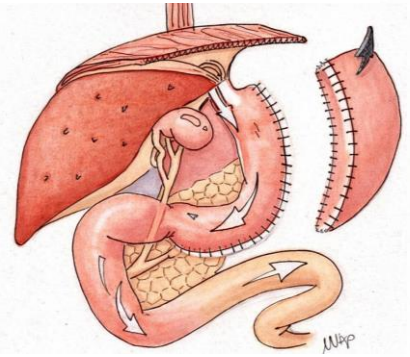
Complicanza	TB	SASI	SADI-S
Complicanze totali	2–8%	3–10%	2.6–11% oaepublish.c...
Leak	1–2%	1–3%	~1% oaepublish.c...
Sanguinamento	~1%	1–2%	~1% oaepublish.c...
Reintervento	<5%	3–6%	<6% oaepublish.c...
Mortalità	~0%	~0%	~0%

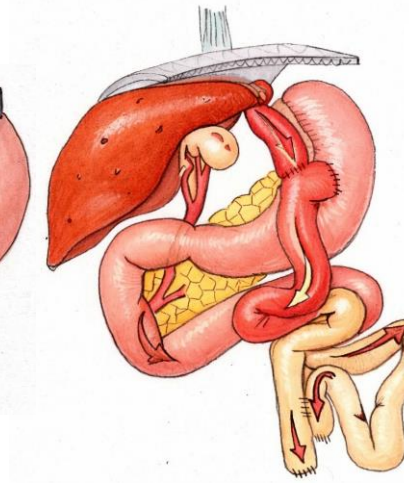
Tabella 4 – Complicanze metaboliche e nutrizionali

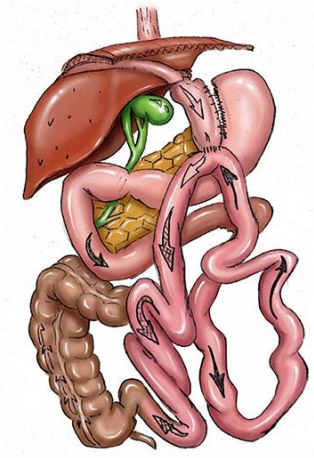
Complicanza	TB	SASI	SADI-S
Diarrea cronica	5–15%	5–20%	15–30% ⚠️
Steatorrea	rara	rara	frequente ⚠️
Malnutrizione proteica	rara	rara-moderata	5–15% ⚠️
Carenze vitaminiche	moderate	moderate	elevate ⚠️
Anemia	bassa	moderata	significativa
Reflusso	possibile	frequente ⚠️	raro

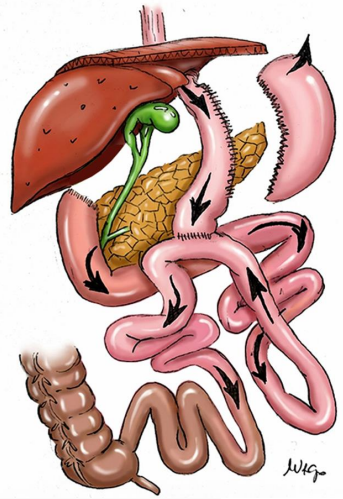
SADI, RYTB e OATB come procedure revisionali

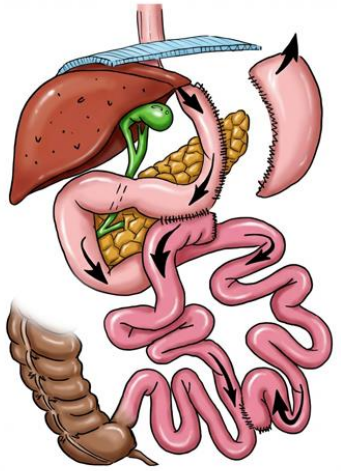












RYTB (Santoro Transit Bipartition)

OATB (SASI)

SADI, RYTB e OATB come procedure revisionali

Surgical Endoscopy
https://doi.org/10.1007/s00464-026-12692-x

Comparative seven year outcomes of RYGB and SADI-S as revisional procedures for weight recurrence regain after sleeve gastrectomy: weight loss trajectory, reflux control, and metabolic safety

Asaad F. Salama[1,2] · Abdelwahed Yahmadi[1] · Hamzah El Baba[1] · Jawher Baazaoui[1] · Khadija Gibreal[3] · Mohamed Bougmiza[4] · Mohammed Al Kuwari[1]

Received: 29 December 2025 / Accepted: 19 February 2026

Variable	RYGB ($n=62$)	SADI-S ($n=43$)	p-value
Operative time (minutes)	2::00:45:00 (0:39–03:05)	2:03:20:93 (0:30–06:65)	0.71
Length of hospital stay (days)	3.69 (0.87)	3.59 (0.74)	0.51

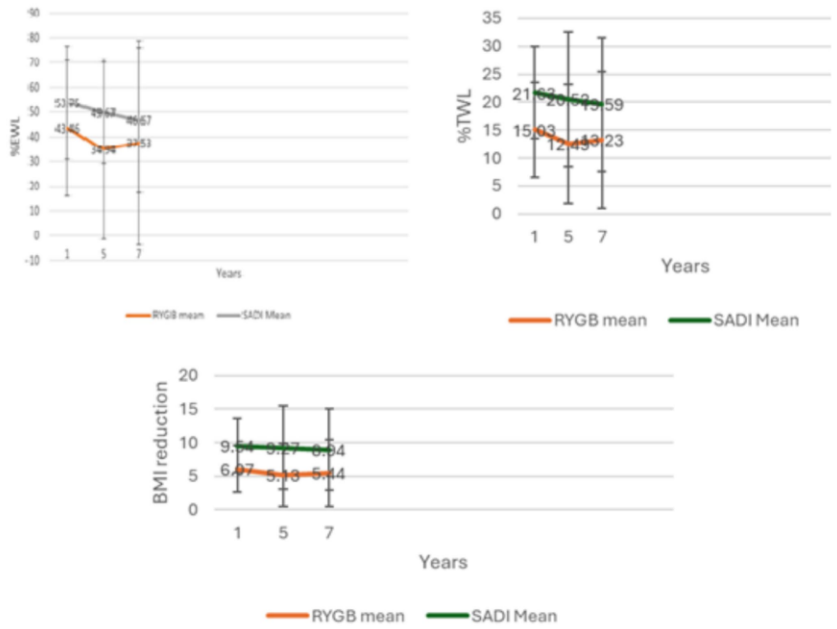


Table 6 Comorbidity outcomes comparison of RYGB versus SADI after sleeve gastrectomy

Variable	RYGB *N* (%)	SADI-S *N* (%)	*p*-value*
Diabetes			
Complete remission or improved	4 (44.4)	5 (55.6)	0.24
No changes/worse	6 (85.7)	1 (14.3)	
Hypertension			
Complete remission or improved	0 (0.0)	2 (100.0)	0.38
No changes/worse	8 (61.5)	5 (38.5)	
Dyslipidemia			
Complete remission or improved	6 (66..7)	3 (33.3)	0.99
No changes/worse	2 (50.0)	2 (50.0)	
Asthma			
Complete remission or improved	2 (100.0)	0 (0.0)	0.99
No change/worse	2 (66.7)	1 (33.3)	
GERD			
Complete remission or improved	19 (95.0)	1 (5.0)	0.02*

ChatGPT

ChatGPT

in caso di reincremento ponderale dopo sleeve gastrectomy che procedura chirurgica bariatrica revisionale è consigliata?

📊 In sintesi pratica (clinica reale)

Scenario	Procedura preferita
GERD importante	👉 Gastric bypass
Regain + BMI alto/metabolico	👉 SADI-S
Regain + equilibrio nutrizionale	👉 Transit bipartition
Solo dilatazione tecnica	👉 Re-sleeve (selezionato)

Quality Improvement Study

INTERNATIONAL JOURNAL OF SURGERY

OPEN

Reviving weight loss and metabolic obesity-related comorbidities: mid-term results of single anastomosis sleeve ileal (SASI) bypass for failed sleeve gastrectomy. A retrospective cohort study

Sergio Carandina, MD[a,b,*], Silvia Ferro, MD[b], Massimiliano DE Palma, MD[b], Andrea Sartori, MD[b], Viola Zulian, MD[a], Antonio Iannelli, MD, PhD[a,c]

Background: The single anastomosis sleeve ileal (SASI) bypass, a hybrid bariatric procedure combining sleeve gastrectomy (SG) and ileal bypass, has emerged as a potential solution for SG failure, offering both restrictive and malabsorptive effects. This study investigates the mid-term outcomes of SASI in patients undergoing conversion due to SG failure, with a focus on weight loss, metabolic improvement, and postoperative complications.

Methods: This retrospective study included 44 consecutive patients who underwent SASI after SG failure at a tertiary bariatric referral center between May 2019 and June 2024. Patients were assessed for demographic, anthropometric, and comorbidity data, with follow-up at 6, 12, 18, and 24 months. Primary outcomes included weight loss and improvement in comorbidities, while secondary outcomes focused on surgical complications and procedure-related issues.

Results: The mean BMI decreased from 39.1 ± 7.2 kg/m^2 at the time of SASI to 30.5 ± 5.9 kg/m^2 and 27.5 ± 4.8 kg/m^2 at 12 and 24 months, respectively, with a %TWL of 21.5 ± 7.8% at 12 months and 29.7 ± 9.5% at 24 months. Significant improvements were observed in obesity-related comorbidities, including remission of type 2 diabetes, sleep apnea, and hypertension. Short-term complications occurred in 11.3% of patients, with no postoperative mortality. Mid-term follow-up revealed that 65% of patients experienced resolution of gastroesophageal reflux disease (GERD), although 11.3% developed de novo GERD symptoms.

Conclusion: SASI conversion after SG failure is associated with significant weight loss and favorable metabolic outcomes. However, GERD remains a challenge, and careful patient selection and surgical technique are crucial. Larger, multi-center studies with longer follow-up are needed to further refine the role of SASI in revisional bariatric surgery.

Keywords: bariatric surgery, bypass, failed sleeve gastrectomy, metabolic obesity-related comorbidities, metabolic surgery, single anastomosis sleeve ileal (SASI), sleeve gastrectomy failure, surgical revision

Obesity Surgery (2026) 36:11–19
https://doi.org/10.1007/s11695-025-08409-z

IFSO

RESEARCH

Creation of Side-to-Side Compression Anastomosis Using the GT Metabolic Solutions™ Magnet System, DI Biofragmentable (MagDI™ System) to Achieve Duodeno-Ileal Diversion in Patients with Obesity: Preliminary Italian Multi-Center Results

Sonja Chiappetta[1] · Paolo Gentileschi[2] · Stefano Olmi[3] · Giovanni Cesena[3] · Marco Anselmino[4] · Michel Gagner[5]

Received: 2 September 2025 / Revised: 8 November 2025 / Accepted: 20 November 2025 / Published online: 25 November 2025

Abstract

Background Linear magnetic compression is a novel technique to perform gastrointestinal anastomosis.

Objective This Italian multi-center clinical investigation aimed to evaluate the feasibility, safety and efficacy of the creation of a side-to-side compression anastomosis using the GT Metabolic Solutions™ Magnet System, DI Biofragmentable (MagDI™ System) to achieve duodeno-ileal diversion.

Methods Patients with a body mass index (BMI) of ≥30 to 50 kg/m^2 and weight regain and/or type 2 diabetes mellitus (T2DM) after sleeve gastrectomy (SG) and patients with a BMI of ≥30 to 35 kg/m^2 and T2DM underwent a side-to-side duodeno-ileal diversion using the GT Metabolic™ DI Magnet (linear, 39 mm).

Results 28 patients (19 F) underwent surgery in 4 centers in the time between 09/24 and 02/25. Mean age and BMI were 44 years and 36.7 ± 4.4 kg/m^2. Mean operative time and hospital stay were 73.2 min and 1.6 days. Paired magnets were expelled in all patients in a mean of 37.3 days. There were three procedure-related serious adverse events (Clavien Dindo III, one ileal perforation on POD 1, one liver insufficiency leading to reversal on POD 144 and one trocar site hernia on POD 203). Mean BMI, %EWL and %TWL at 90 days (n = 23) were 32.7 ± 0.8 kg/m^2, 36.6 ± 4.6% and 10.4 ± 1.1%. Mean HbA1c decreased from 6% at baseline to 5.7% at 30 days and to 5.5% at 90 days.

Conclusion Preliminary data shows that side-to-side magnet compression duodeno-ileal anastomosis was feasible, safe and effective. Future follow-up data is necessary.

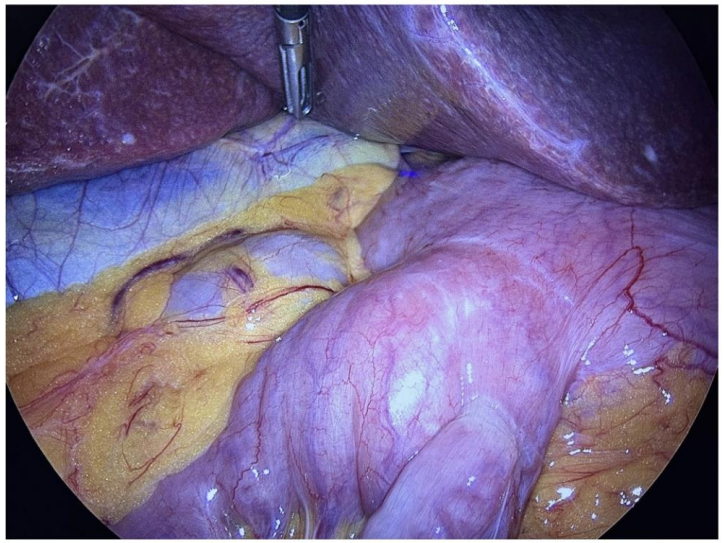


Fig. 3 Laparoscopic duodeno-ielostomy during revisional surgery for hernia repair on POD 203

Table 2 Follow-up characteristics

Characteristic	Baseline	D30	D60	D90	D180	D270	D360
Treated Patients who made each visit	n = 27	n = 27	n = 25	n = 23	n = 17	n = 5	n = 0
Weight (kg)							
Mean (SEM)	101.8 (3.3)	95.0 (2.9)	92.7 (2.9)	91.3 (3.0)	87.1 (3.4)	92.8 (6.4)	
N count	27	27	25	23	16	4	0
BMI (kg/m²)							
Mean (SEM)	36.8 (0.8)	34.4 (0.8)	33.7 (0.8)	32.7 (0.8)	32.1 (1.1)	32.2 (1.4)	
N count	27	27	25	23	16	4	0
% TWL							
Mean (SEM)		6.5 (0.7)	8.5 (1.0)	10.4 (1.1)	10.7 (1.7)	13.2 (4.2)	
N count	0	27	25	23	16	4	0
% EWL							
Mean (SEM)		22.6 (2.7)	29.0 (3.7)	36.6 (4.6)	38.9 (6.6)	39.5 (11.9)	
N count	0	27	25	23	16	4	0
Glucose (mg/dL)							
Mean (SEM)	105.9 (8.1)	92.7 (3.4)	93.3 (4.8)	92.3 (4.1)	90.4 (2.8)	95.6 (10.7)	
N count	27	25	25	23	16	5	0
HbA1c (%)							
Mean (SEM)	6.0 (0.2)	5.7 (0.2)	5.4 (0.1)	5.5 (0.1)	5.5 (0.1)	5.2 (0.1)	
N count	27	25	25	23	15	5	0

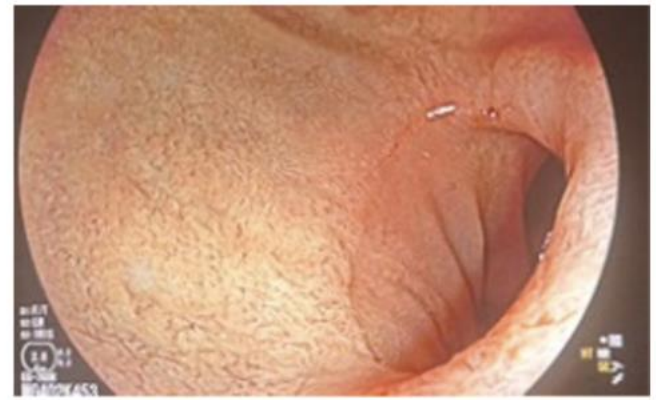


Fig. 1 Endoscopic control with patent duodeno-ielostomy on POD 30

Obesity Surgery (2019) 29:1439–1441
https://doi.org/10.1007/s11695-019-03752-4

VIDEO SUBMISSION

Treating Severe GERD and Obesity with a Sleeve Gastrectomy with Cardioplication and a Transit Bipartition

Sergio Santoro[1] · Filippe Camarotto Mota[1] · Caio Gustavo Aquino[1]

Published online: 8 February 2019

Abstract

Introduction Epidemiological data have demonstrated that obesity is an important risk factor for the development of gastroesophageal reflux disease (GERD). The proportion of subjects with GERD symptoms can be as high as 50% for BMI > 30. Although still controversial in the literature, there are several studies associating sleeve gastrectomy (SG) with an increase in GERD prevalence. The current video shows the technique of a SG with cardioplication associated with transit bipartition (TB) for the treatment of an obese patient with severe GERD.

Case Report and Management A 46-year-old male presented with obesity and GERD symptoms for several years. His BMI was 37.8 kg/m^2 with mainly central obesity and several obesity-related comorbidities, including hypertension, dyslipidemia, severe insulin resistance, and obstructive sleep apnea. After a diagnostic evaluation, the patient was submitted to a sleeve gastrectomy with a transit bipartition. He presented satisfactory weight loss, reaching a BMI of 26 and remission of all comorbidities and complete remission of GERD symptoms. The current follow-up period is 2.5 years and the patient did not present any weight regain or return of the GERD symptoms.

Conclusion We presented a surgical alternative that is effective in both weight loss and remission of GERD. SG + TB is a potent intervention for metabolic syndrome and obesity. Furthermore, this alternative is capable of treating both obesity and GERD, in a simple way, avoiding mechanical restriction and the significant malabsorption related to excluded segments.

Keywords Morbidity obesity · GERD · Bariatric surgery · Sleeve gastrectomy · Transit bipartition

Incidence of de novo gastroesophageal reflux disease following sleeve gastrectomy versus sleeve gastrectomy with transit bipartition: a retrospective cohort study

Jian Wang[1] · Liangchen Ni[1] · Tianci Li[1] · Wanjie Wang[1] · Wenchao Song[1] · Fidele Kakule Kitaghenda[1] · Jian Hong[1,2] · Xiaocheng Zhu[1,2] · Libin Yao[1,2]

Received: 1 May 2025 / Accepted: 23 September 2025 / Published online: 3 October 2025

Abstract

Background Sleeve gastrectomy (SG) is the most commonly performed bariatric procedure worldwide; however, concerns persist regarding the development of de novo gastroesophageal reflux disease (GERD) after surgery. Sleeve gastrectomy with transit bipartition (SG-TB) has emerged as a potential alternative, aiming to reduce GERD incidence while achieving superior weight loss outcomes. This study aimed to compare short-term outcomes of GERD, weight loss, and perioperative safety between SG and SG-TB.

Methods A retrospective cohort study was conducted with 215 patients who underwent SG (n = 100) or SG-TB (n = 115) between January and December 2022. Eligible patients were aged 16–65 years with a body mass index (BMI) of ≥ 27.5 kg/m^2 (with type 2 diabetes) or ≥ 32.5 kg/m^2. GERD incidence was evaluated using the gastroesophageal reflux disease questionnaire (GERD-Q) and endoscopy 12 months after surgery. Weight loss was measured by percentage total weight loss (%TWL) and percentage excess weight loss (%EWL). Operative time, estimated blood loss, length of hospital stay, and 30-day postoperative complications were also compared.

Results At 12 months, the SG-TB group demonstrated superior weight loss (%EWL: 112.0 ± 38.2% vs. 97.2 ± 25.5%, $p = 0.001$; %TWL: 33.8 ± 7.4% vs. 31.1 ± 6.4%, $p = 0.006$). The incidence of GERD was significantly lower in the SG-TB group (7.0% vs. 29.0%, $p < 0.001$). Multivariate regression analysis identified SG as an independent risk factor for developing de novo GERD postoperatively (OR 4.536, 95% CI 1.787–11.519, $p = 0.001$). SG-TB was associated with longer operative time but showed comparable early postoperative safety to SG.

Conclusions SG-TB significantly reduced the risk of postoperative GERD and resulted in superior short-term weight loss compared to SG, without increasing perioperative complication rates. Further multicenter, long-term studies are needed to validate these findings.

Keywords Sleeve gastrectomy · Transit bipartition · Gastroesophageal reflux disease · Weight loss · Bariatric surgery

Obesity Surgery (2026) 36:1965–1974
https://doi.org/10.1007/s11695-026-08586-5

REVIEW

Gastroesophageal Reflux Disease Outcomes after Sleeve Gastrectomy with One Anastomosis Transit Bipartition: A Systematic Review and Meta-analysis

Patrick Noel[1] · Victor Ramos Mussa Dib[2] · Carlos Augusto Scussel Madalosso[3] · Surendra Ugale[4] · Paulo Reis Rizzo Esselin de Melo[5] · Sergio Santoro[6]

Received: 22 November 2025 / Revised: 3 March 2026 / Accepted: 7 March 2026 / Published online: 21 March 2026

Abstract

Background Sleeve gastrectomy (SG) is the most commonly performed bariatric procedure worldwide, but gastroesophageal reflux disease (GERD) remains a significant long-term complication affecting 20–35% of patients. Transit bipartition (TB) procedures have emerged as potential solutions for managing GERD while maintaining metabolic benefits. This systematic review evaluates GERD outcomes following TB procedures.

Methods A systematic search of PubMed, Embase, Cochrane CENTRAL, and Web of Science was conducted through January 5, 2025, following PRISMA 2020 guidelines. Quality assessment used the MINORS instrument. Random-effects meta-analysis using Freeman-Tukey double arcsine transformation was performed in R (packages: meta 6.5-0, metafor 4.4-0). Heterogeneity was assessed using I^2, τ^2, and Cochran's Q. Publication bias was evaluated using funnel plots and Egger's test.

Results Seven studies comprising 2,912 patients met inclusion criteria. The pooled GERD resolution rate was 88.4% (95% CI: 78.6–94.5%; I^2=64.8%). De novo GERD occurred in 4.9% (95% CI: 2.8–7.8%). Leave-one-out sensitivity analysis demonstrated stable estimates (range: 85.7–89.2%). Publication bias assessment (Egger's $p = 0.089$) with trim-and-fill adjustment suggested potential overestimation by approximately 4% points (adjusted estimate: 84.1%).

Conclusions Transit bipartition procedures demonstrate favorable short-term GERD outcomes with resolution exceeding 85% and low de novo GERD incidence below 5%. However, the evidence is limited by study design, heterogeneity, and short follow-up. These procedures offer effective weight loss with favorable GERD outcomes compared to standard sleeve gastrectomy.

SADI, RYTB e OATB come procedure revisionali

tecnica	vantaggi	svantaggi
SADI	Calo ponderale ++ Effetti metabolici+++ Costi +	Tempi operatori + Effetti malassorbitivi ++ Gerd + Tratti esclusi
RYTB	Calo ponderale + Effetti metabolici + Gerd (?) No tratti esclusi	Tempi operatori + Costi (2 anastomosi) +
OATB (SASI)	Calo Ponderale + Effetti metabolici + Tempi operatori + Costi + No tratti esclusi	Gerd + Effetti mallassorbitivi?
Magnet DIB	Assenza di suture chirurgiche +++	Calo ponderale +

Anteprima del multicentrico italiano sulle bipartizioni

Patients(n)	240
Female, n(%)	167 (69,6%)
Male, n(%)	73 (30,4%)
Age (years)	47,9
BMI (kg/m2)	44,5
Excess Weight (kg)	57,2
Diabetes mellitus, n(%)	77 (32.1%)
Arterial Hypertension, n(%)	112 (46.7%)
OSAS in CPAP, n (%)	58 (24.2%)
Dyslipidemia, n(%)	85 (35.4%)

Procedure	Total n (%)	Primary n (%)	Revisional n(%)
RYTB	76 (31.7%)	69 (28.7%)	7 (2.9%)
OATB	159 (66.2%)	76 (31.7%)	83 (34.6%)
DITB	5 (2.1%)	0	5 (2.1%)
Total	240	145 (60.4%)	95 (39.6%)

Conclusioni

- **SADI-S:** tecnica consolidata, risultati migliori ma possibili problemi malassorbitivi, necessità di follow up serrato. Tecnicamente più impegnativa
- **RYTB**: tecnica metabolica con risultati eccellenti, no segmenti esclusi, no problemi malassorbitivi. Più costosa e con tempi operatori piu lunghi rispetto a OATB. Possibile trattamento del GERD. Necessità di standardizzare le misure (studi difficilmente comparabili) . Pochi dati a lungo termine. Ancora under investigation
- **OATB o SASI**: tecnica metabolica, tempi operatori piu costi, meno costosa, GERD potrebbe peggiorare, . Pochi dati a lungo termine. Ancora under investigation, presto fattibile con magnete
- Tutte e tre le tecniche hanno ottimi risultati sia come tecniche primarie che revisionali dopo SG

Abbiamo bisogno di maggiore standardizzazione e di trial!

Vi aspettiamo a Riccione!


PRESIDENTE DEL CONGRESSO
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REGGIO EMILIA
18 APRILE 2026

Grazie