

南京大学医学院附属鼓楼医院
The Affiliated Drum Tower Hospital
of Nanjing University Medical School

Evaluation of the Efficacy and Safety of SASI Compared to RYGB in the Treatment of Obesity and Related Metabolic Diseases: A Prospective, Single-Center, Randomized Controlled Clinical Trial

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Disclosure

There is nothing to disclose



南京鼓楼医院

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2. Study Protocol

3. Study Results

4. Discussion

Background

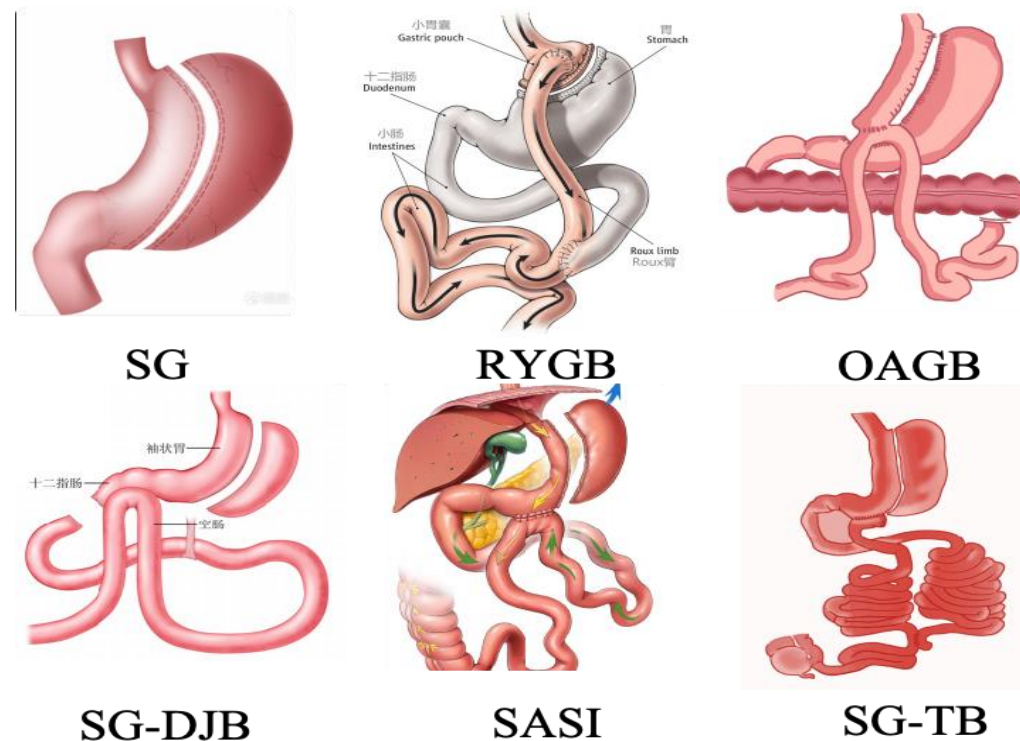
Research has shown that obesity and its associated metabolic diseases are **difficult to manage** long-term through lifestyle modifications and pharmacotherapy alone. **Metabolic surgery**, due to its **stable and sustained caloric restriction and weight loss**, can lead to partial or even complete remission of obesity-related comorbidities and is widely performed globally. Different types of bariatric procedures offer **individualized treatment options for metabolic syndrome (MS)**.

Obesity is associated with various metabolic diseases



Roth AE. Outcomes in Bariatric and Metabolic Surgery: an Updated 5-Year Review.

Different types of bariatric surgery provide individualized treatment options for metabolic syndrome (MS).



SG Vs RYGB

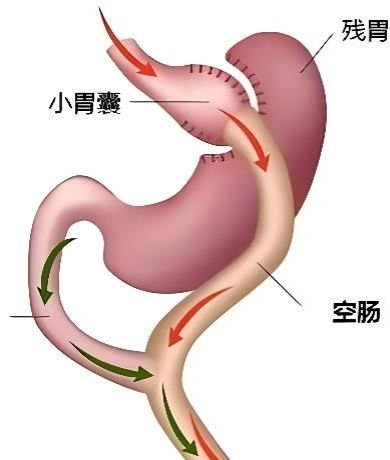
SG



SG is a relatively simple surgical procedure

With limited effects on metabolic diseases and prone to causing gastroesophageal reflux and fistulas

RYGB



RYGB is highly effective

Postoperative complications related to nutrition are prone to occur. The gastric remnant cannot undergo gastroscopy.

Sleeve Gastrectomy With Transit Bipartition *A Potent Intervention for Metabolic Syndrome and Obesity*

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

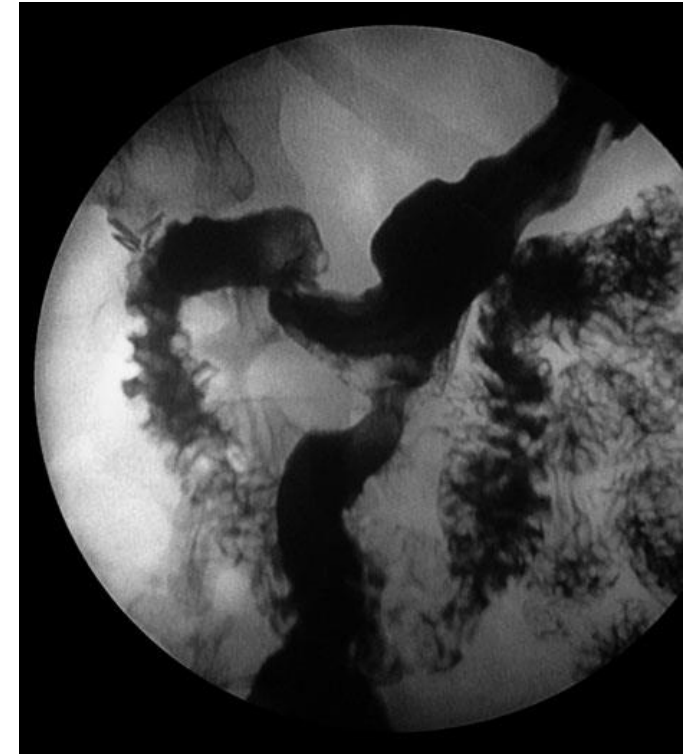
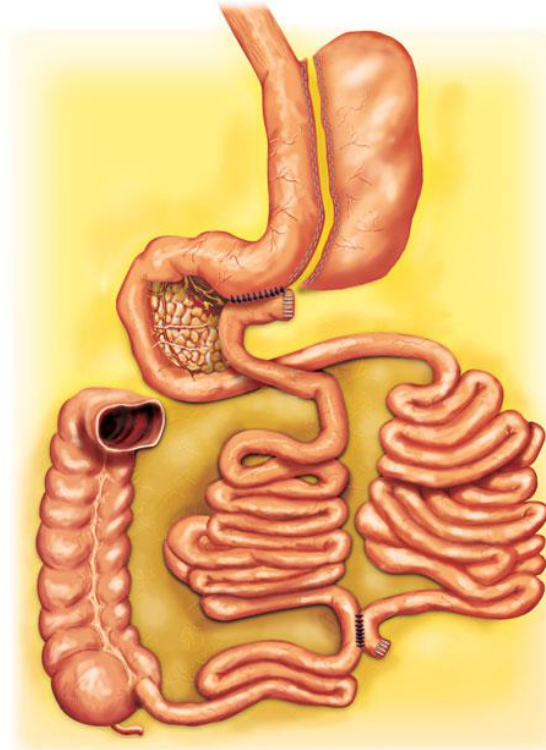
Objective: To present 5-year results of sleeve gastrectomy (SG) with transit bipartition (TB) as a metabolic intervention for obesity.

Background: Recent data suggest that high glycemic index foods may lead to a hormonally hyperactive proximal gut and a hypoactivate distal gut, which are linked to metabolic syndrome. TB was designed to counterbalance these effects.

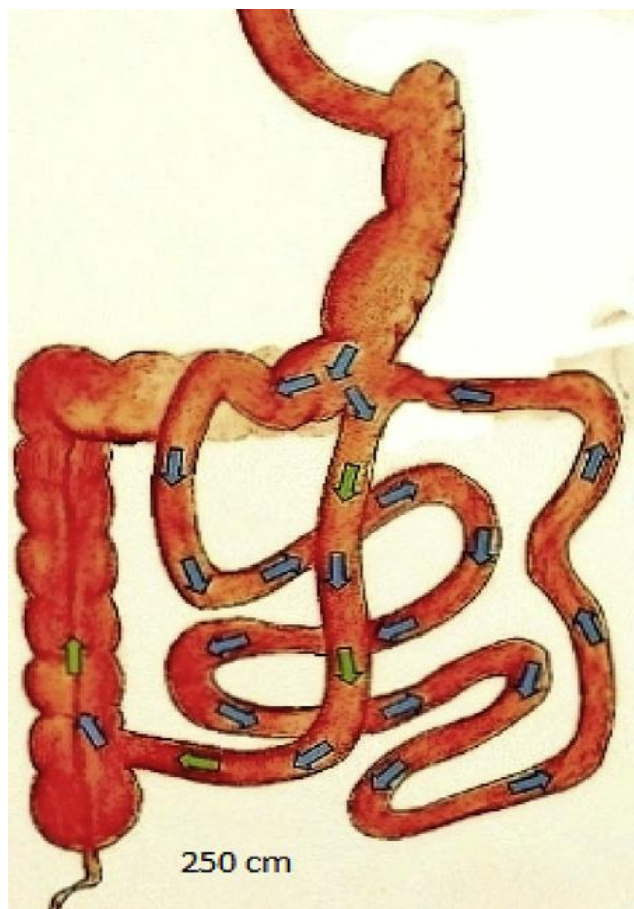
Methods: A total of 1020 obese patients with body mass index (BMI) ranging from 33 to 72 Kg/m² underwent SG and TB (SG + TB). TB creates a gastroileal anastomosis in the antrum after the SG; nutrient transit is maintained in the duodenum, avoiding blind loops and minimizing malabsorption. The stomach retains 2 outflow pathways. A lateral enteroanastomosis connects both segments at 80 cm proximal to the cecum.

Results: Adequate follow-up data were collected in 59.1% of patients from 4 months to 5 years. The average percent of excess BMI loss was 91%, 94%, 85%, 78%, and 74% in the first, second, third, fourth, and fifth year, respectively. Patients experienced early satiety and major improvement in presurgical comorbidities, including diabetes (86% in remission), following surgery. Two deaths occurred (0.2%). Other surgical complications occurred in 6% of patients. Signs of malabsorption were rare.

Conclusions: SG + TB is a simple procedure that results in rapid weight loss and remission or major improvement of comorbidities. Strictly aiming at physiological correction, TB avoids prostheses, narrow anastomoses, excluded segments, and malabsorption. Weight and comorbidities are much improved. Diabetes is improved without duodenal exclusion. TB is an excellent complement to an SG.



Proposal of SASI



Original Research

Efficacy of single anastomosis sleeve ileal (SASI) bypass for type-2 diabetic morbid obese patients: Gastric bipartition, a novel metabolic surgery procedure: A retrospective cohort study



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- In 2016, Mahdy T modified the TB procedure and introduced the single anastomosis sleeve ileal (SASI) bypass. This technique integrates the benefits of SG and RYGB, providing an optimal balance between efficacy and safety.
- Early entry of food into the distal ileum via the gastroileal anastomosis stimulates GLP-1 and PYY secretion, enhancing glucose-lowering effects. Preservation of duodenal and proximal jejunal passage avoids malabsorption and lowers the risk of malnutrition.
- The dual-channel design reduces gastric pressure, ameliorating reflux and staple-line leakage associated with isolated sleeve gastrectomy, while also preserving endoscopic access to the excluded stomach—a limitation of conventional gastric bypass.

Efficacy of SASI

Ten-Year Outcomes of Single-Anastomosis Sleeve Ileal (SASI) Bypass: Surgical Configuration Determines Long-Term Efficacy and Safety

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Abstract

Introduction The metabolic foundation of Single Anastomosis Sleeve Ileal (SASI) bypass is based on the combination of sleeve gastrectomy with a loop gastroileal bypass. The short- and mid-term outcomes were reported in favor of adequate weight loss and safe nutritional profile. The long-term efficacy and safety remain uncertain, particularly regarding optimal limb length and anastomosis size.

Methods A retrospective cohort study of patients who underwent SASI bypass between 2013 and 2014. Three groups based on the surgical technique: Group1: 2.5 m ileum, 4–6 cm anastomosis, Group2: 3.0 m ileum, 2.5 cm anastomosis, and Group3: 3.5 m ileum, 2.5 cm anastomosis. The primary outcome included weight loss, diabetic remission, and nutritional deficiencies requiring intervention.

Results Ninety-five patients were eligible with 10-year follow-up data available for 89 (93.7%). The mean percentage of excess weight loss (%EWL) was $58.6 \pm 20.3\%$. Diabetic remission was sustained in 88%. Group1 had a 60% malnutrition rate and 40% reversal rate. Group2 and group3 showed significantly fewer nutritional complications, with no surgical revisions in Group 3. In this group, all diabetic patients remained in complete remission at 10 years. Weight outcomes between Groups 2 and 3 were comparable, though Group 3 had a slightly higher mean %EWL at 10 years (62.5% vs. 57.0%; $p = 0.21$).

Conclusion SASI bypass offers durable long-term weight loss and diabetic remission rates at 10 years. Outcomes are highly dependent on surgical technique. The current data suggests the optimal outcome is offered with the 3.5 ileum/ 2.5 cm anastomosis configuration. Standardization of technique is critical to ensure long-term efficacy and safety.

- Ten-year follow-up results show that the SASI procedure provides durable long-term weight loss and diabetes remission.
- Among the three surgical configurations, the combination of a 3.5-m common channel with a 2.5-cm anastomosis yields the best outcomes.
- Currently, all clinical studies on SASI are retrospective, with no randomized controlled trials (RCTs) available; the level of clinical evidence remains low, which hinders further clinical adoption of the SASI procedure.

Initiation of this Study

附件

2023年度医疗新技术发展立项项目

编号	申报科室	申报人	申报成员	新技术名称	立项名称	资助金额
XJSFZLX202301	肝胆与肝移植外科	潘军平	王帅, 汤宁	腹腔镜肝切除术联合内镜下乳头大球囊扩张取石术在肝内外胆管多发结石合并胆囊结石中的临床应用	重点项目	12万
XJSFZLX202314	胰腺与代谢外科	褚薛慧	康星, 单晓东	单吻合口袖状胃空肠旁路术	重点项目	12万

国家全民健康保障信息平台

医学研究登记备案信息系统

褚薛慧

南京鼓楼医院

快速开始

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关于国家医学研究登记备案信息系统与中国临床试验注册中心平台开展对接试运行工作的通知

关于传统医学领域临床试验停止与中国临床试验注册中心同步的通知

项目来源: 本机构项目, 分中心项目

项目类型: 全部, 干细胞临床研究, 体细胞临床研究, 一般临床研究

医学研究

研究名称: 医学研究题目

医学研究题目

更新时间: 2024-09-11 12:20:32

状态: 已公开

操作: 审核进度, 撤销注册, 提交报告, 暂停终止

评价SASI相较于RYGB治疗肥胖症及相关代谢疾病有效性和安全性的前瞻性、单中心、随机、对照临床研究
pid:245019; 如有注册中心的审核问题, 请据此pid联系注册中心。

显示: 10 项结果

显示第 1 至 1 项结果, 共 1 项

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View Record	Unique Protocol ID	Tags	Problems Results modules not included.	ClinicalTrials.gov ID	Brief Title	Record Status	Last Update
Clear Filters	Search Column...	Select...	Select...	Search Column...	Search Column...	Select...	Select...
Open	2024-557			NCT06598267	Evaluate the Efficacy and Safety of SASI Compared with RYGB in the Treatment of Obesity and Related Metabolic Diseases	Public	2024-09-13 23:09

南京大学医学院附属鼓楼医院医学伦理委员会伦理审查同意函 编号: 2024-JS-02 第 1 页 共 1 页

南京大学医学院附属鼓楼医院
医学伦理委员会伦理审查同意函
IRB Review Approval Letter

编号: 2024-JS-02

新技术名称	单吻合口袖状胃空肠旁路术		
申请科室	胰腺与代谢外科	申报人	褚薛慧
申报类别	医疗新技术		
审查途径	☐ 会议审查 ☒ 快速审查	审查类型	☒ 首次审查 ☐ 复审 ☐ 跟踪审查
审查日期	2024 年 08 月 06 日	审查地点	科研楼 219 会议室
审查委员	仇毓东 王景		
伦理审查文件:			
1. 医疗新技术初始审查申请表			
2. 医疗新技术临床应用准入申报书			
3. 医疗新技术临床应用知情同意书 (版本号: 1.0, 版本日期: 2024 年 08 月 05 日)			
伦理委员会审评意见			
1. 根据《涉及人的生命科学和医学研究伦理审查办法》、《赫尔辛基宣言》和《人体生物医学研究国际道德指南》的伦理原则, 经本伦理委员会审查, 同意开展本项新技术, 请遵循伦理委员会批准的新技术申报书开展。			
2. 本同意函有效期为初始审查同意之日起 3 年。			
3. 持续审查。			
本伦理委员会对此项技术的持续审查频率为自同意之日起: ☐ 3 个月 ☐ 6 个月 ☒ 1 年			
除非该技术在周期内已经完成, 否则请在 2025 年 08 月 06 日之前一个月内向伦理委员会递交年度进展报告。本伦理委员会具有根据实际进展情况改变持续审查频度的权力。			
主任委员签名: 仇毓东			
日期: 2024 年 08 月 06 日			
南京大学医学院附属鼓楼医院医学伦理委员会 (盖章)			



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Study Protocol

Study Design:

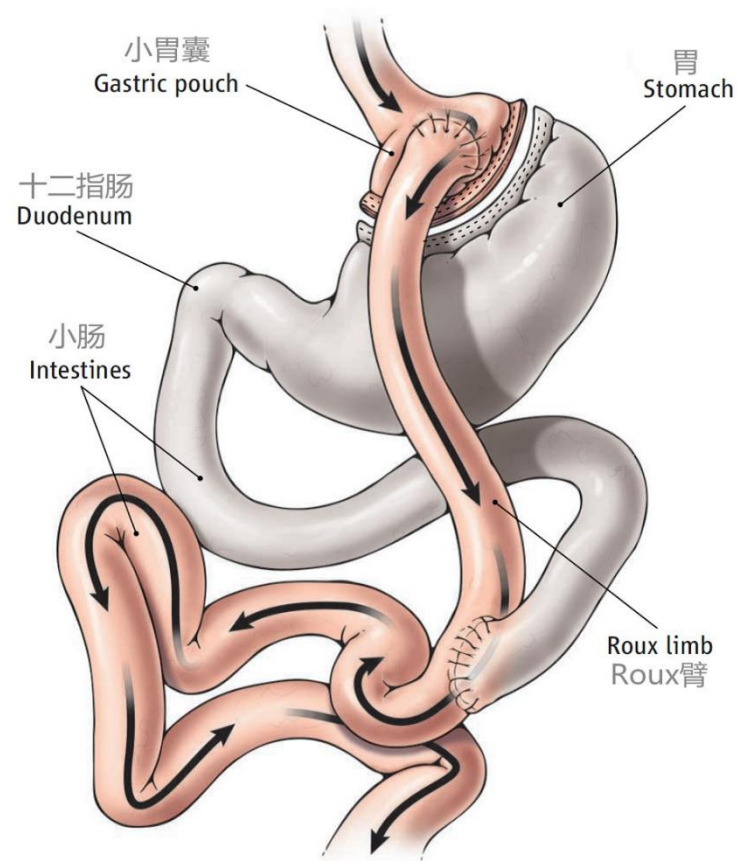
This is an **interventional, single-center, randomized, controlled clinical trial** designed to evaluate the efficacy and safety of **SASI** compared to **RYGB** in treating obesity and related metabolic diseases.

Study Participants:

Nanjing Drum Tower Hospital serves as the clinical trial center. A total of **304 subjects** are planned for enrollment. After providing informed consent and meeting the inclusion/exclusion criteria, patients will be **randomized** into either the **experimental group (SASI)** or the **control group (RYGB)**.

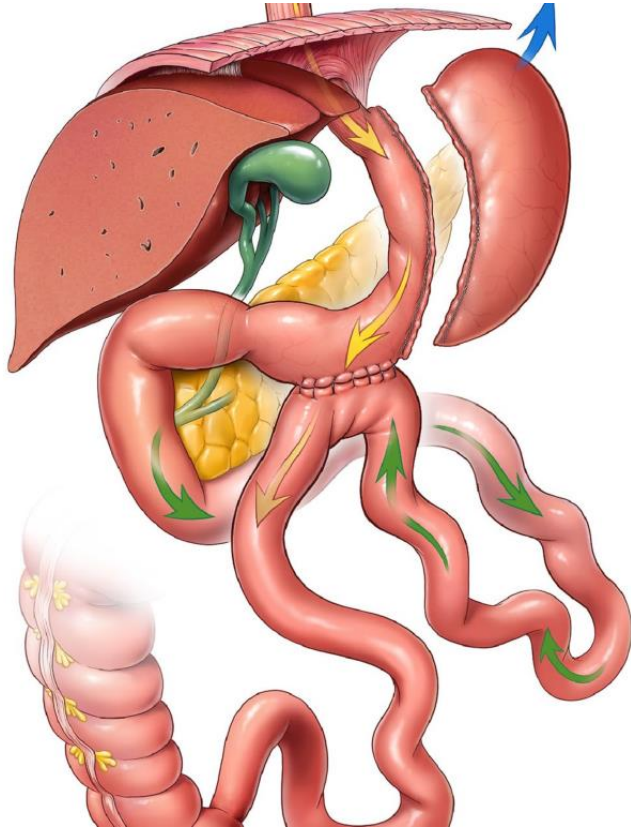
Study Protocol

Paremeters of RYGB



- 1 Gastric pouch volume: 50 ml
- 2 Gastrointestinal anastomosis size: 3 cm
- 3 Alimentary limb length: 1 m
- 4 Biliopancreatic limb length: 1 m
- 5 Mesenteric defect and Petersen's space routinely closed

Study Protocol



Paremeters of SASI

- ① Sleeve gastrectomy calibrated with a 36-Fr bougie
- ② Sleeve gastrectomy starting 4 cm from the pylorus
- ③ Gastrointestinal anastomosis size: 3 cm
- ④ Total small bowel length measured, with the midpoint selected as the site for gastrointestinal anastomosis
(common channel ≥ 3 m)
- ⑤ Petersen's space left unrepaired (not closed)

Sample Size Calculation:

Based on the **24 patients** who underwent **SASI** at our center, the one-year postoperative percentage of excess weight loss (**%EWL**) was **93.7%**, while for the **29 patients** who underwent **RYGB**, the one-year **%EWL** was **82.1%**.

Based on these existing data from our center, assuming a one-year %EWL of 93.7% in the experimental group (SASI group) and 82.1% in the control group (RYGB group), with a superiority margin set at 0, power at 0.8, a two-sided type I error alpha at 0.05, and a 1:1 allocation ratio between groups, the minimum required sample size per group calculated using PASS 15.0 software was 121. Accounting for a **dropout rate of 20%**, the final required sample size was **152 patients per group, totaling 304 patients**.

Tests for Two Proportions

Numeric Results for Testing Two Proportions using the Z-Test with Unpooled Variance

H0: $P1 - P2 = 0$ H1: $P1 - P2 = D1 \neq 0$

Target Power	Actual Power*	N1	N2	N	P1	P2	Diff D1	Alpha
0.80	0.80275	121	121	242	0.8210	0.9370	-0.1160	0.0500

* Power was computed using the normal approximation method.

Summary Statements

Group sample sizes of 121 in group 1 and 121 in group 2 achieve 80.275% power to detect a difference between the group proportions of -0.1160. The proportion in group 1 (the treatment group) is assumed to be 0.9370 under the null hypothesis and 0.8210 under the alternative hypothesis. The proportion in group 2 (the control group) is 0.9370. The test statistic used is the two-sided Z-Test with unpooled variance. The significance level of the test is 0.0500.

Dropout-Inflated Sample Size

Dropout Rate	Sample Size			Dropout-Inflated Enrollment Sample Size			Expected Number of Dropouts		
	N1	N2	N	N1'	N2'	N'	D1	D2	D
20%	121	121	242	152	152	304	31	31	62



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Study Protocol

Study Objectives:

To compare the **weight loss effects** between **SASI and RYGB** using percentage of excess weight loss (**%EWL**) **at one year post-surgery**.

Secondary objectives:

Include comparing the **effects on metabolic syndrome, nutritional complications, surgical complications, quality of life, and weight loss trajectory**.



Primary Endpoint:

- Percentage of excess weight loss (**%EWL**) at one year post-surgery.

Secondary Endpoints:

- **Metabolic parameters:** HbA1c, fasting glucose, fasting insulin, fasting C-peptide, lipid panel, blood pressure, uric acid, liver ultrasound (steatosis), and use of antihypertensive, lipid-lowering, and glucose-lowering medications.
- **Nutritional parameters:** Hemoglobin, erythrocyte count, albumin, prealbumin, vitamin B12, vitamin D, folic acid, iron, and calcium.
- **Safety parameters:** Incidence of wound infection, postoperative bleeding, fistula, intra-abdominal infection, intestinal obstruction (with Clavien-Dindo classification), length of hospital stay, and 30-day readmission rate.
- **Anthropometric parameters:** Weight, BMI, and percentage of excess BMI loss (%EBMIL, using BMI of 24 as standard).



Inclusion Criteria:

1. Patients undergoing bariatric surgery, aged 18-65 years.
2. BMI ≥ 35 for simple obesity, or BMI ≥ 32 with at least 2 metabolic syndrome components.
3. No high-risk factors for gastric cancer on preoperative gastroscopy.
4. Deemed suitable for gastric bypass or single-anastomosis (loop) surgery by preoperative multidisciplinary evaluation.
5. Patients who understand and accept long-term follow-up.
6. Patients who agree to participate and sign the informed consent form.



Exclusion Criteria:

1. Patients with type 1 diabetes mellitus.
2. Active gastroduodenal ulcer on gastroscopy within the past 2 months without treatment.
3. History of chronic inflammatory bowel disease.
4. Pregnant women or those planning pregnancy in the near future.
5. Patients with psychiatric disorders requiring guardianship.
6. Patients undergoing revisional bariatric surgery.

Study Period	Screening Period	Treatment Period	Follow-up Period			
Visit Time	After Admission	Before Discharge	1 Month Post-surgery	3 Months Post-surgery	6 Months Post-surgery	12 Months Post-surgery
Inclusion/Exclusion Criteria	✓					
Informed Consent Signing	✓					
Demographics	✓					
Body Weight	✓		✓	✓	✓	✓
Gastroscopy Results	✓					✓
Diabetes Status	✓		✓	✓	✓	
Other Metabolic Syndrome Components	✓		✓	✓	✓	✓
Concomitant Medication	✓		✓	✓	✓	✓
Nutritional Indicators	✓		✓	✓	✓	✓
Procedure Informatio		✓				✓
Surgical Complications		✓	✓	✓	✓	✓



Study Results

Indications	RYGB(n=44)	SASI(n=46)	P
Age	41.3±7.59	40.8±9.65	0.799
Gender (Men/Women)	15/29	20/26	0.361
BMI(kg/m ²)	37.6±4.9	38.4±4.4	0.42
Weight(kg)	105.0±15.9	107.9±19.6	0.442
Neck circumference(cm)	42.78±4.73	42.73±4.77	0.96
Waist circumference(cm)	118.4±11.4	120.6±12.3	0.413
Hip circumference(cm)	120.3±9.6	121.6±10.0	0.542
HbA1c(%)	5.9±1.1	6.9±2.2	0.475
SBP(mmHg)	143.8±18.8	141.0±19.2	0.487
DBP(mmHg)	92.5±15.2	89.4±16.5	0.355
Triglycerides(mmol/L)	2.6±0.9	2.2±1.8	0.32
Comorbidities			
T2DM(%)	13(29.5)	22(19.6)	0.271
Hypertension(%)	24(54.5)	16(34.8)	0.06
OSAHS (%)	13(29.5)	11(23.9)	0.546

Patient Enrollment

(September 2024 – September 2025):

- Total patients enrolled: **90**
- **RYGB** group: **44** patients
- **SASI** group: **46** patients

Study Results

Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Weight(kg)	6 months	77.47±12.59	77.51±13.3	0.991
	12 months	78.62±10.05	68.91±10.95	0.03*
EWL%	6 months	90.14±39.85	88.18±38.31	0.855
	12 months	94.77±26.02	106.88±34.33	0.337
BMI	6 months	27.63±3.91	26.92±3.88	0.760
	12 months	26.69±3.26	24.0±3.03	0.04*
EBMI%	6 months	90.01±39.5	92.89±29.18	0.764
	12 months	94.85±26.29	112.09±26.92	0.116

Completed 1-year follow-up:

54 patients (RYGB: 28, SASI: 26)

Weight Loss Outcomes:

- At 1 year post-surgery, the SASI group had significantly lower **mean body weight and BMI** compared to the RYGB group (**p < 0.05**).
- However, there were **no significant differences in %EWL or %EBMIL** between the two groups.



Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Neck circumference (cm)	6 months	36.48±2.51	36.78±2.04	0.640
	12 months	36.85±2.22	35.22±2.32	0.083
Waist circumference (cm)	6 months	90.94±10.24	90.04±11.30	0.759
	12 months	89.98±9.9	80.01±7.26	0.007*
Hip circumference (cm)	6 months	101.07±4.69	96.25±5.14	0.660
	12 months	26.69±3.26	24.0±3.03	0.022*

- At 1 year post-surgery, the SASI group had significantly **lower mean waist and hip circumferences** compared to the RYGB group ($p < 0.05$).
- There **was no significant difference in neck circumference** between the two groups.

Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Fasting glucose(mmol/L)	6 months	4.67±0.42	4.45±0.43	0.063
	12 months	4.57±0.30	4.41±0.38	0.242
Fasting insulin(uU/mL)	6 months	9.15±4.34	6.56±2.93	0.014*
	12 months	8.45±3.92	5.53±3.26	0.041*
Fasting C-peptide (pmol/L)	6 months	788.56±250.7	734.81±193.72	0.388
	12 months	732.92±177.32	604.47±219.26	0.104
HbA1c(%)	6 months	5.05±0.39	4.92±0.37	0.21
	12 months	4.94±0.28	4.92±0.44	0.897
HOMA-IR	6 months	1.91±0.96	1.32±0.64	0.011*
	12 months	1.72±0.84	1.10±0.67	0.037*

Glycemic Control:

- At 6 months and 1 year post-surgery, the **SASI group** had significantly **lower fasting insulin and HOMA-IR values** compared to the RYGB group ($p < 0.05$).
- There were no significant differences in fasting glucose, fasting C-peptide, or HbA1c between the two groups.

Study Results

Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Triglycerides(mmol/L)	6 months	1.20±0.50	1.13±0.39	0.551
	12 months	1.24±0.67	1.00±0.54	0.315
Total Cholesterol(mmol/L)	6 months	3.96±0.79	3.92±0.71	0.877
	12 months	4.13±0.72	53.70±0.77	0.14
LDL-C(mmol/L)	6 months	2.15±0.53	2.19±0.45	0.75
	12 months	2.14±0.50	1.92±0.47	0.24
Uric Acid (umol/L)	6 months	315.81±106.19	296.19±74.15	0.441
	12 months	331.54±83.54	260.87±59.65	0.015*

Lipids and Uric Acid:

- There were no significant differences in lipid panel between the two groups.
- At 1 year post-surgery, the **SASI group** had significantly **lower uric acid** level compared to the RYGB group ($p < 0.05$).



Study Results

Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
UDFF(%)	6 months	5.65±2.86	4.90±2.57	0.558
	12 months	4.33±2.02	3.25±1.25	0.107
psWE(m/s)	6 months	1.09±0.16	1.09±0.12	0.886
	12 months	1.10±0.13	1.17±0.12	0.217

Fatty Liver Resolution:

- There were no significant differences in liver fat quantification (UDFF and psWE) between the two groups.



Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Hb(g/L)	6 months	130.62±17.93	136.60±12.69	0.177
	12 months	134.71±14.69	137.00±17.68	0.735
ALB(g/L)	6 months	44.45±2.64	43.91±2.65	0.472
	12 months	44.35±3.67	45.26±2.00	0.485
PA(mg/L)	6 months	213.58±43.23	211.72±46.24	0.883
	12 months	253.54±57.71	223.90±44.48	0.193
SF (ng/mL)	6 months	166.4(11.75, 309.45)	152.60(106.18, 273.78)	0.01*
	12 months	123.5(55.0, 186.15)	73.8(38.65, 239.2)	0.128

Hb, Hemoglobin; ALB, Albumin; PA, Prealbumin; SF, Serum ferritin

Study Results

Indications	Postoperative time points	RYGB(n=28)	SASI(n=26)	P
Vitamin B12(pg/mL)	6 months	523.0(389.0, 537.5)	644.5(371.75, 886.75)	0.955
	12 months	499.0(384.5, 780.5)	593.5(273.5, 814.0)	0.66
Vitamin D(ng/mL)	6 months	19.81±6.64	24.44±8.72	0.038*
	12 months	16.55±6.52	16.19±8.15	0.906
Folic acid(ng/mL)	6 months	17.49±4.29	13.04±4.92	0.001*
	12 months	15.17±6.00	17.75±4.81	0.274
Calcium (mmol/L)	6 months	2.36±0.09	2.37±0.07	0.685
	12 months	2.35±0.08	2.33±0.04	0.366
Serum iron (umol/L)	6 months	12.27±6.08	17.39±4.77	0.002*
	12 months	16.68±7.71	17.56±9.03	0.803

Nutritional Parameters:

- At 6 months post-surgery, the **RYGB group** had significantly **lower levels of serum ferritin, vitamin D, folic acid, and serum iron** compared to the SASI group (**p < 0.05**).
- At 1 year post-surgery, these differences were no longer significant, probably related to **timely nutritional supplementation**.

Complications	RYGB(n=28)	SASI(n=26)
Incision Infection(%)	0(0)	0(0)
Postoperative Bleeding(%)	1(3.6)	0(0)
Postoperative Bleeding(%)	0(0)	0(0)
Intra-abdominal Infection(%)	0(0)	0(0)
Intra-abdominal Infection(%)	0(0)	0(0)
Postoperative Nausea and Vomiting(%)	3(10.7)	2(7.7)
30-day Readmission Rate(day)	5.95±1.65	5.82±1.39
30-day Readmission Rate(%)	1(3.6)	2(7.7)

Safety Outcomes (Adverse Events):

RYGB Group:

- 1 patient intra-abdominal bleeding (bleeding point at the anastomosis), successfully managed with emergency surgery.
- 3 patients severe nausea and vomiting in the early post-discharge period; 1 of these patients was readmitted within 30 days and improved after intravenous fluid therapy.

SASI Group:

- 2 patients experienced severe nausea and vomiting in the early post-discharge period; both were readmitted within 30 days and improved after intravenous fluid therapy.

Discussion

- In terms of **weight loss outcomes**, the mean body weight and BMI of patients in the SASI group was lower than that in the RYGB group at 1 year postoperatively, with a statistically significant difference. No significant intergroup differences were observed in percentage excess weight loss (%EWL) or percentage excess body mass index loss (%EBMIL).
- With regard to **glycemic control**, fasting insulin and HOMA-IR values were significantly lower in the SASI group compared with the RYGB group at 6 months and 1 year after surgery. There were no significant differences between the two groups in fasting blood glucose, fasting C-peptide or glycated hemoglobin.
- No statistically significant intergroup differences were found in blood lipids, and fatty liver disease. But the SASI group had significantly lower uric acid level compared to the RYGB group at 1 year post-surgery.

Discussion

- For **surgery-related complications**, nausea and vomiting occurred in both groups without significant difference. One case of anastomotic bleeding was recorded in the RYGB group.
- In terms of **nutritional complications**, serum vitamin D and serum iron levels were significantly lower, while serum ferritin and folate levels were significantly higher in the RYGB group than in the SASI group at 6 months postoperatively. However, all these parameters showed no significant differences between the two groups at the 1-year follow-up.

Conclusion

- The SASI procedure achieves comparable weight loss to RYGB and demonstrates superior glycemic improvement, with similar remission rates for other coexisting metabolic disorders.
- The rates of surgical complications and nutrition-related complications are comparable between SASI and RYGB.

Limitations

- This study lacks one-year postoperative gastroscopy results; therefore, the incidence of bile reflux and anastomotic ulcers cannot be evaluated.
- Limitations of this study include a relatively small sample size and short follow-up duration. Further investigations with enlarged sample cohorts and longer follow-up periods are required.
- This is a single-center study.



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Thank You

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