Case Report ISSN 2689-1093

Surgical Research

Single Anastomosis Sleeve Ileal Bypass: A Modern Bariatric Surgery Technique

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Received: 08 Jan 2026; **Accepted:** 16 Feb 2026; **Published:** 28 Feb 2026

Citation: El-Fatmi K, HOCINE O, Hakem D, et al. Single Anastomosis Sleeve Ileal Bypass: A Modern Bariatric Surgery Techniquel. Surg Res. 2026; 8(1): 1-2.

ABSTRACT

Obesity can lead to serious complications, and bariatric surgery, such as Single Anastomosis Sleeve Ileal (SASI) bypass, becomes a valuable option when conventional treatments fail. This innovative technique combines a sleeve gastrectomy with a single anastomosis intestinal bypass, reducing operative risk and time. We present the case of a 27-year-old woman with morbid obesity and metabolic syndrome who underwent a SASI procedure. The operation and postoperative course were uneventful, and the patient achieved a 30 kg weight loss at 7 months, stabilizing at 80 kg. This case illustrates the potential of SASI as a promising alternative in bariatric surgery. However, long-term studies are needed to evaluate its durability and nutritional safety.

Keywords

Obesity, Liver function, Inflammatory markers.

Case Report

We report the case of a 27-year-old married woman, mother of a healthy child, working as a nurse, with no significant medical or surgical history. She consulted for morbid obesity, with a weight of 110 kg and a height of 180 cm (BMI = 34.3 kg/m²), complicated by metabolic syndrome, evidenced by a waist circumference of 92 cm and dyslipidemia. She had no history of eating disorders, endocrine disease, medication-induced weight gain, or familial obesity. Cardiovascular, endocrine, and musculoskeletal systems were clinically unremarkable. Preoperative assessments, including a complete blood count, renal and liver function, and inflammatory markers, were within normal limits.

The lipid panel revealed:
Total cholesterol: 2.28 g/L LDL-c: 1.32 g/L Triglycerides: 1.99 g/L HbA1c: 5.6% Fasting glucose: 0.97 g/L TSH: 2.8 mIU/L
No contraindications to surgery were found, including cardiovascular disease, decompensated steatohepatitis, or portal hypertension. The patient was deemed eligible for bariatric surgery..

Surgical Procedure

The SASI procedure included:

- Gastrolysis from 6 cm above the pylorus to the left diaphragmatic crus
- Calibrated vertical sleeve gastrectomy
- Hiatal dissection and posterior cruroplasty (Vicryl suture)
- A Latero-lateral mechanical gastroileal anastomosis performed 150 cm from the ileocecal valve
- A Negative methylene blue leak test

Postoperative recovery was uneventful. The patient received supplementation with vitamin D, vitamin B12, calcium, and magnesium. After 7 months, she had lost 30 kg, reaching a stabilized weight of 80 kg. Multidisciplinary follow-up included bariatric surgery, nutritional care, and psychological support.

Discussion

SASI bypass is a novel bariatric technique combining restrictive and malabsorptive mechanisms [5]. By maintaining continuity of the gastrointestinal tract, endoscopic access to the duodenum and biliary tree remains possible. A single anastomosis simplifies the surgery, potentially reducing complications such as leaks,

strictures, and bowel obstruction [6,7].

Clinical studies suggest SASI may be particularly effective in patients with type 2 diabetes or hypertension, demonstrating rapid improvement in glycemic and blood pressure control [4,8]. Unlike procedures with complete duodenal exclusion, SASI limits the risk of severe nutritional deficiencies. It also avoids mesenteric division, further reducing postoperative morbidity. The early satiety reported by patients is believed to be mediated by distal nutrient sensing in the ileum, triggering hypothalamic satiety signals [6].

Compared to Roux-en-Y gastric bypass, SASI is associated with similar weight loss outcomes and comorbidity resolution, but with shorter operative times and lower surgical complexity [7]. However, long-term evidence on nutritional impact and sustained weight loss remains limited and warrants further study.

Conclusion

The Single Anastomosis Sleeve Ileal Bypass is a promising and technically simplified bariatric surgery that combines the benefits of sleeve gastrectomy and intestinal bypass through a single anastomosis. It offers effective weight loss, metabolic improvements, and reduced operative risk. Nonetheless, as a relatively new technique, long-term studies are essential to validate its efficacy, safety, and nutritional implications. Patient selection, multidisciplinary follow-up, and informed consent remain critical for optimal outcomes.

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