



# Endoscopic anastomotic reconstruction with lumen-apposing metal stents

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**Background and Aims:** This case is a presentation on the use of lumen-apposing metal stents (LAMSs) and then endoscopic dissection to permanently re-establish continuity between the gastric pouch and remnant in a complex and hostile abdomen.

**Methods:** A 56-year-old man with a previous Roux-en-Y gastric bypass, performed for weight loss, developed life-threatening gastric injury, including perforation after chronic consumption of nonsteroidal anti-inflammatory drugs. He underwent multiple operations, finally resulting in a gastrostomy, and his gastric remnant and pouch were closed. Subsequently, he was reliant solely on parenteral feeding. After multidisciplinary discussion, a 3-step endoscopic procedure was used to reconnect the gastric pouch and remnant. In the first 2 steps, LAMSs were used to create a fistula and establish a connection between the pouch and remnant, facilitating a liquid diet. Endoscopic dissection was later undertaken to dissect the bridge between the 2 stents, which were subsequently removed, and endoscopic suturing was used to ensure the connection between the previously divided stomach.

**Results:** There were no significant immediate or delayed adverse events of the procedure. The patient is now able to tolerate both a liquid and soft diet.

**Conclusions:** This case demonstrates the novel and successful endoscopic management to permanently reverse a Roux-en-Y gastric bypass as a result of adverse events. (VideoGIE 2026;11:221-4.)

## INTRODUCTION

Lumen-apposing metal stents (LAMSs) and EUS have, since their advent, revolutionized the management of multiple conditions previously requiring surgical intervention or interventional radiology. LAMSs were initially approved

for the management of pancreatic fluid collections and walled-off necrosis by the U.S. Food and Drug administration in the last quarter of 2013. However, since then, they have been used in disease processes such as gastric outlet obstruction, biliary drainage, and creation of fistulae. This case highlights yet another novel use.

## CASE REPORT

A 56-year-old man presented to the hospital with abdominal pain in keeping with peritonitis on a background of regular nonsteroidal anti-inflammatory drug use for lumbar back pain. Seven years before, he had a Roux-en-Y performed for weight loss.

CT scanning demonstrated a perforation at the gastrojejunal anastomosis. He underwent a laparotomy with oversewing of the defect. This was complicated in the early postoperative period with a small-bowel obstruction requiring a second operation, which included reduction of a Petersen hernia, serosal tear oversewing, small-bowel resection, and formation of an ileostomy. After the procedure, he was admitted to the intensive care unit with

*Abbreviation: LAMS, lumen-apposing metal stent.*

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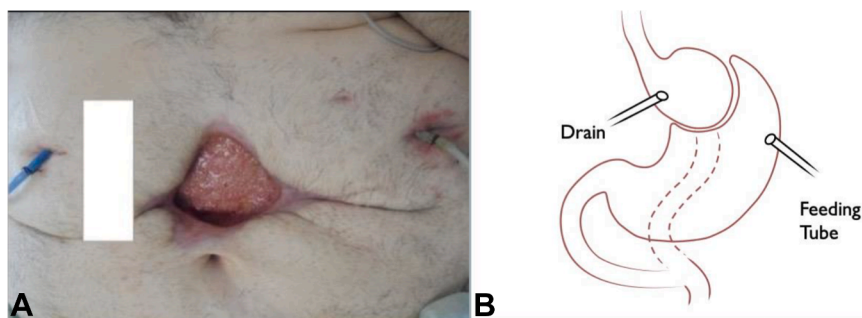
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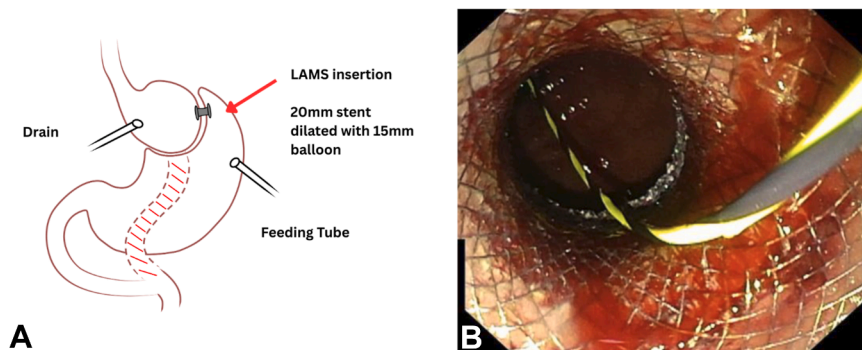
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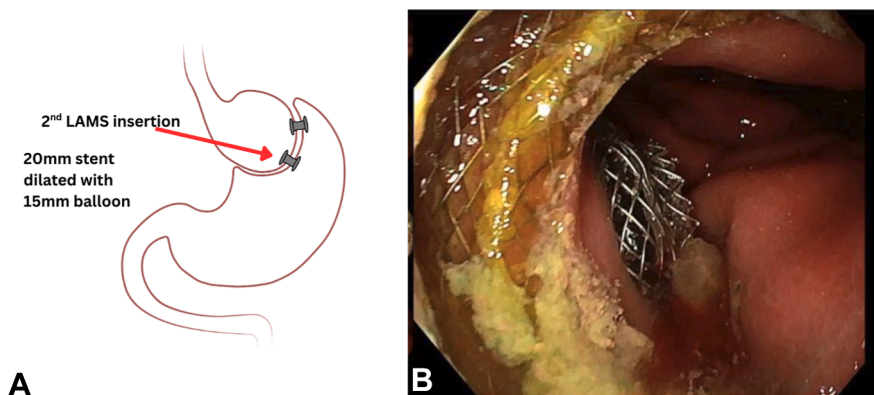
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**Figure 1.** Postsurgical anatomy (A) and diagrammatically illustrated (B) the postsurgical anatomy after multiple complex operations to address the damage related to the Roux-en-Y gastric bypass.



**Figure 2.** Insertion of the first lumen-apposing metal stent diagrammatically and endoscopically demonstrating the first stage in the endoscopic process of reconstituting the integrity between the gastric remnant and pouch, shown both diagrammatically (A) and endoscopically (B).



**Figure 3.** Insertion of the second lumen-apposing metal stent is depicted diagrammatically (A) and endoscopically (B) demonstrating the second stage in the endoscopic process of reconstituting the integrity between the gastric remnant and pouch.

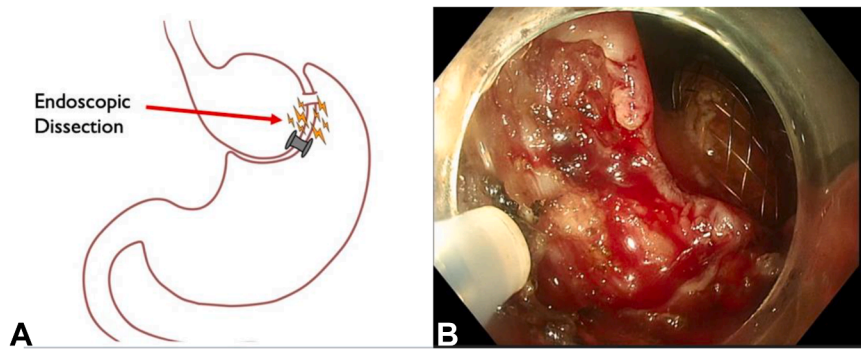
multiorgan failure. His clinical condition worsened, and a relook laparotomy demonstrated necrosis at the gastrojejunostomy with large-volume small-bowel contents within the abdomen. There were multiple further areas of necrosis of the small bowel. He proceeded to small-bowel resection, reversal of his ileostomy, and closure of the gastric pouch with drains placed and a gastrostomy into the gastric remnant. His final postsurgical anatomy is summarized in Figure 1.

The patient remained in the hospital for 123 days, recovering to be able to be discharged to a tertiary center on enteral feeding under surgical service.

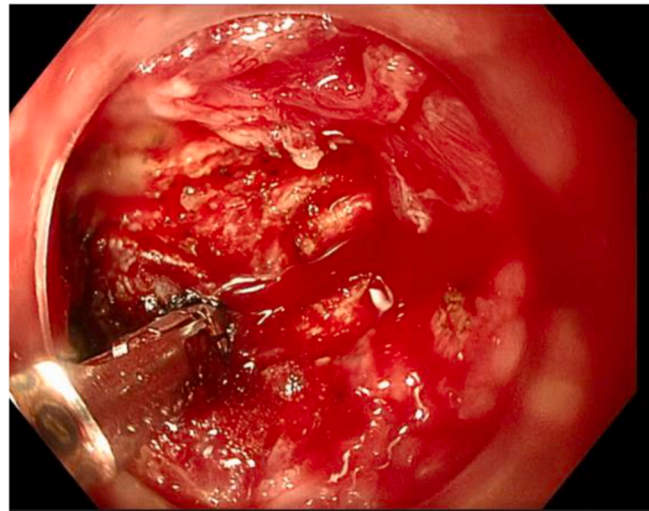
Despite enteral nutrition, biochemical workup demonstrated significant nutritional deficiencies. The patient expressed a firm desire to be able to eat again, and advice was sought from our service with extensive multidisciplinary discussion.

## PROCEDURE

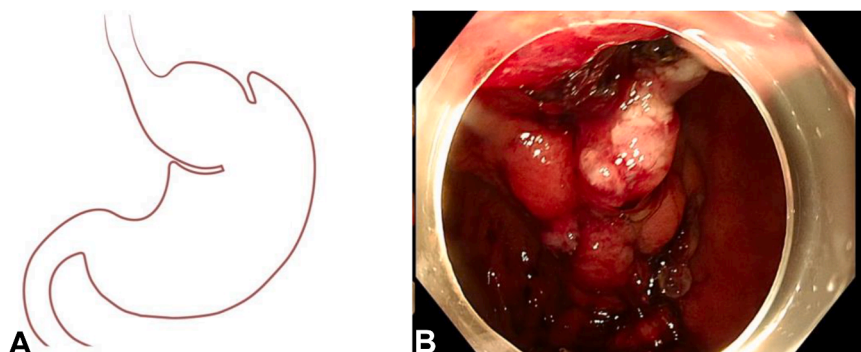
It was thought that further laparoscopic or open surgery was too risky, so an endoscopic option with a LAMS was used to reconnect the defunctioned gastric pouch to the



**Figure 4.** Endoscopic dissection of the bridge between the 2 LAMSS. Diagrammatic (A) and endoscopic depiction (B) of the dissection from the tract after the removal of the more proximal LAMS, moving methodically and dissecting the bridge to the second LAMS. LAMS, Lumen-apposing metal stent.



**Figure 5.** Use of coagulation graspers to attain hemostasis. Demonstration of the use of coagulation graspers during the dissection of the bridge down to the second lumen-apposing metal stent to attain hemostasis while managing bleeding from dense fibrosis.



**Figure 6.** Final anastomosis achieved. Final view of the fistula created between the gastric pouch and remnant is depicted diagrammatically (A) alongside the endoscopic view (B).

gastric remnant (Fig. 2) (Video 1, available online at [www.videogie.org](http://www.videogie.org)). This allowed the patient to consume liquids. However, he experienced bloating and early satiety, with imaging demonstrating pooling of liquid (“sumping”) in the dependent location within the pouch.

A second stent was deployed more distally as outlined in the image, which greatly improved symptoms (Fig. 3).

After 6 months of this arrangement, the patient was anxious to resume a normal diet. The patient was offered and agreed to the removal of the proximal LAMS, with

endoscopic dissection of the bridging tissue to the level of the distal stent, widely reconnecting the remnant and pouch (Fig. 4). Dissection was performed with an endoscopic submucosal dissection knife (Olympus ITknife2, Center Valley, Pa, USA), with thick, vascular, fibrotic muscular tissue encountered (Fig. 5). A general surgeon on standby should be concerned about a free peritoneal communication arising that could not be managed endoscopically. To reinforce the structural integrity of this fistula, endoscopic suturing was used to close any potential microperforation or defects.

This final procedure took approximately 90 minutes with the patient under a general anesthetic. CO<sub>2</sub> was used for insufflation with no intraoperative or postoperative adverse events. The patient was given prophylactic antibiotics before and for 24 hours after the procedure. The final result is shown in Figure 6.

## OUTCOME

The day after the procedure, CT with oral contrast demonstrated patency with no leak. After 2 days of observation, the patient was discharged while tolerating a varied diet. He regained 23 kg, and his nutritional deficiencies were corrected. His state of mind, which had been significantly impacted by his surgical journey, was significantly improved, and it allowed him to return to a sense of normality with an improved physical condition and general sense of well-being.

## DISCLOSURE

All authors disclosed no financial relationships.