

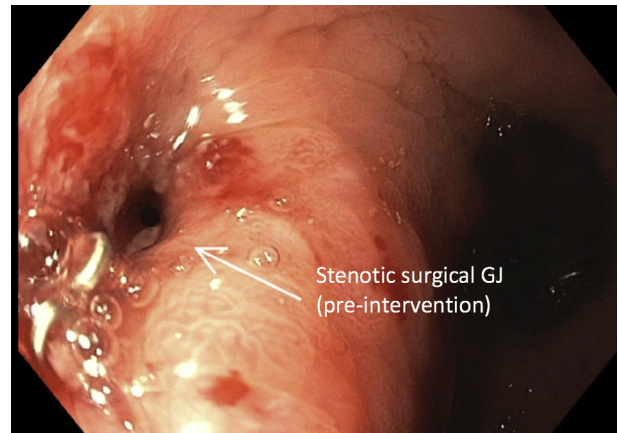


## Cutting the gastric septum between 2 gastrojejunal openings to manage refractory gastrojejunal stenosis in a bariatric surgery patient

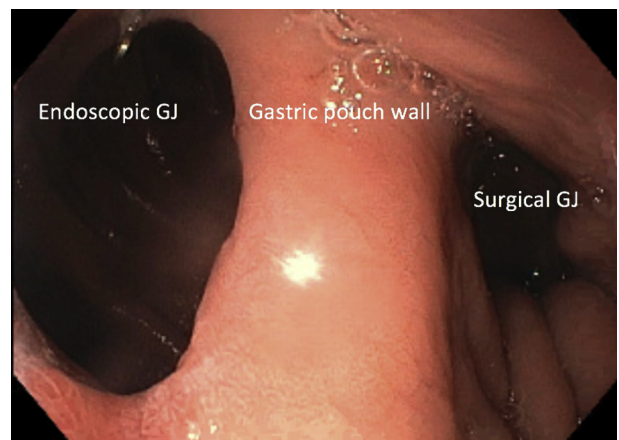
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A 48-year-old woman who had previously undergone laparoscopic Roux-en-Y gastric bypass presented with unintentional weight loss, oral intolerance, nausea, and vomiting. The patient had a history of chronic gastrojejunal stenosis managed by surgical GJ revision; however, the revision GJ developed chronic stenosis (Fig. 1). Multiple endoscopic balloon dilations of the revised surgical GJ had been attempted without clinical success. Adjacent to the stenotic surgically revised GJ, we performed EUS-guided GJ creation using a 15-mm lumen-apposing metal stent (Boston Scientific, Marlborough, Mass, USA), which partially relieved the patient's symptomatic gastric outlet obstruction. The lumen-apposing metal stent was later removed, and several months later, the patient's gastric outlet obstruction gradually returned. Multiple sessions of endoscopic balloon dilation (4 sessions each, maximum balloon diameter of 20 mm) of both surgical and endoscopic GJs proved clinically ineffective. For this unique clinical scenario, we present a novel therapeutic intervention called "transmural gastric dissection," which refers to transmural dissection of the gastric wall separating the 2 adjacent GJs, thereby forming a single, large GJ.

The patient underwent endoscopy using a therapeutic gastroscope (GIF-H180; Olympus America, Center Valley, Pa, USA). The surgical GJ was mildly stenosed and the endoscopic GJ appeared patent; both had undergone recent dilation. Approximately 1 to 2 cm of gastric wall separated the 2 GJs (Fig. 2). The surgical and endoscopic GJs both emptied into a common channel (segment) of the jejunal Roux limb. The gastric pouch was otherwise unremarkable. We incised the intervening gastric wall using a DualKnife electrosurgical knife (Olympus America) with the fractionated cutting mode ENDO CUT I (ie, a 2-stage cutting cycle followed by a coagulation cycle), which enabled controlled cutting with sufficient hemostasis (ERBE VIO300D Unit; ERBE USA, Inc, Marietta, Ga, USA). Next, for the submucosal dissection phase (Fig. 3), we used a Triangle Tip electrosurgical knife (Olympus America) with cutting mode DRY CUT (ERBE VIO300D Unit; ERBE USA, Inc). Submucosal vessels were coagulated using the SOFT COAG mode of the VIO300D. Eventually, the gastric wall separating the surgical and

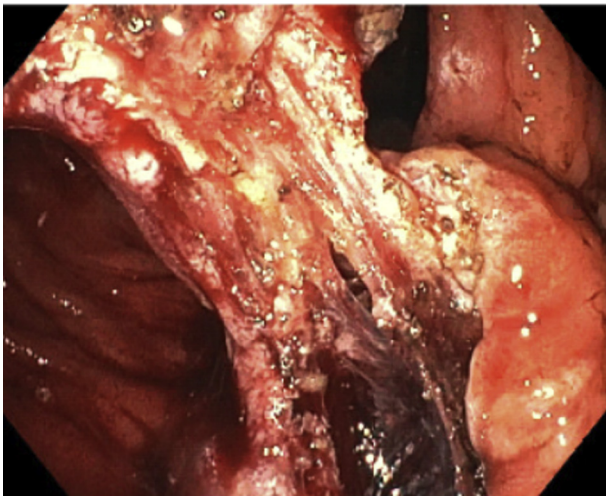


**Figure 1.** Stenotic surgical gastrojejunal opening (indicated by a white arrow), before EUS-guided gastrojejunostomy.

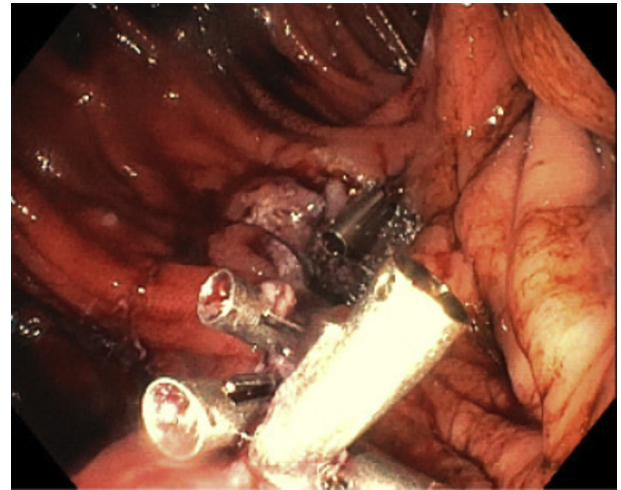


**Figure 2.** Endoscopic image depicting gastric wall separating the 2 gastrojejunostomies.

endoscopically created GJs was completely transected, creating a single, large GJ tract. Areas of deeper gastric tissue dissection were closed with hemoclips (Fig. 4), followed by endoscopic suturing (OverStitch, Apollo Endosurgery, Austin, Tex, USA) using a 2T gastroscope (GIF-2TH180; Olympus America). An upper gastrointestinal series completed 10 days postprocedure showed contrast flowing through a single large patent



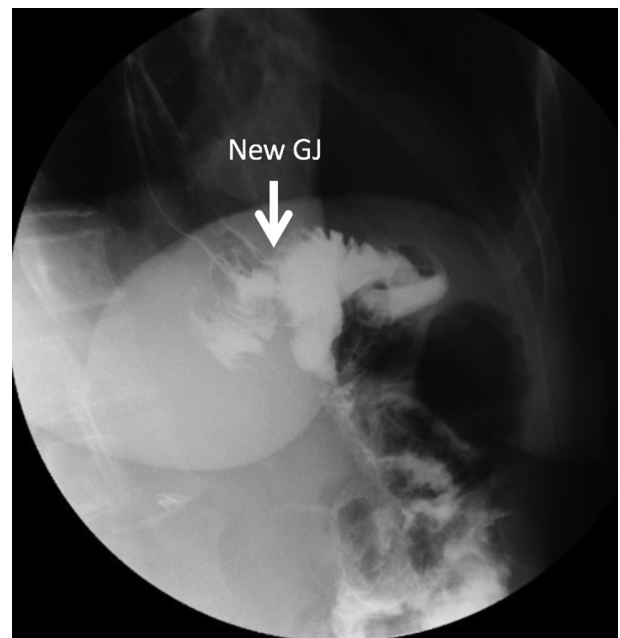
**Figure 3.** Endoscopic image of the nearly dissected gastric wall.



**Figure 4.** Areas of deeper gastric tissue dissection closed with hemostatic clips.

GJ, confirming technical success (Fig. 5). At 1-month follow-up, the patient reported resolution of gastric outlet obstruction symptoms.

Increasing use of bariatric surgery in management of the obesity epidemic has resulted in a higher incidence of bariatric surgical adverse events encountered by gastroenterologists. In the setting of Roux-en-Y gastric bypass, a potential adverse event is a GJ anastomotic stricture. The incidence of GJ anastomotic strictures in Roux-en-Y gastric bypass patients has been variably reported from 0.8% to 33%.<sup>1</sup> GJ strictures produce symptoms of gastric outlet obstruction, such as feeding intolerance, abdominal discomfort, nausea, and vomiting. First-line treatment of GJ anastomotic strictures is endoscopic balloon dilatation.<sup>2</sup> However, multiple sessions of dilatations may be required, and this can impose a significant burden on the patient. Moreover, some GJ strictures may remain refractory to endoscopic dilation, which has historically led to surgical revision of the GJ anastomosis. An alternative to surgical revision in this situation is EUS-guided creation of a gastrojejunostomy using a lumen-apposing metal stent.<sup>3</sup> Unfortunately, an endoscopically created gastrojejunostomy may also be prone to stricture formation. In this case, we used a novel therapeutic intervention called “transmural gastric dissection” to address this problem. This new technique uses technology typically used for endoscopic submucosal dissection to permanently connect 2 separate (but adjacent) GJ tracts by fully dissecting the intervening gastric pouch wall. Although we have shown this technique to be safe and effective, caution should still be taken when performing it,



**Figure 5.** An upper GI series completed 10 days after the procedure showing contrast flowing through a single large patent gastrojejunostomy, confirming technical success.

and potential risks (including weight regain) should be discussed with the patient.

## DISCLOSURE

*Dr Nasr is a consultant for Boston Scientific. All other authors disclosed no financial relationships.*

Abbreviation: GJ, gastrojejunal.

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