



EUS-guided jejunojejunostomy to facilitate ERCP in a patient with unique Roux-en-Y gastric bypass anatomy

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Lumen-apposing metal stents (LAMSs), although initially created for draining pancreatic fluid collections, are frequently used in an “off-label” fashion. They have recently gained popularity as a means to facilitate ERCP in patients with surgically altered GI anatomy. We have previously described using LAMSs to create a temporary gastroenterostomy to facilitate ERCP in a patient with duodenal switch anatomy.¹ The present case describes the use of a LAMS to enable ERCP in a patient with a history of vertical sleeve gastrectomy converted to a Roux-en-Y gastric bypass.

A 52-year-old woman presented from an outside institution with concern for recurrent choledocholithiasis in the setting of prior cholecystectomy. She had previously undergone a vertical sleeve gastrectomy for treatment of medically complicated obesity, with subsequent conversion to Roux-en-Y gastric bypass. Prior attempts at ERCP had failed because of her complex postsurgical anatomy. She most recently presented with left upper quadrant and epigastric abdominal pain associated with elevated liver chemistries and dilation of the common bile duct to 1 cm with mild dilation of intrahepatic biliary radicals. Given her prior cholecystectomy, this was concerning for type I sphincter of Oddi dysfunction.

She underwent percutaneous transhepatic cholangiography, which demonstrated no filling defects. A percutaneous transhepatic biliary drain (PTBD) was placed. After the procedure, she developed pancreatitis, and the decision was made to transfer her to our facility for further management. Given her recent pancreatitis despite PTBD placement, there was concern for occult biliary pathology causing her symptoms, and the decision was made to pursue ERCP. We elected to perform an EUS-directed transgastric ERCP to gain access to the ampulla using a temporary gastrogastic anastomosis to connect the gastric pouch to the excluded gastric remnant. After puncture of the gastric remnant with an EUS-FNA needle under endosonographic guidance and fluid distention of the excluded gastric remnant, the target was insufficient for transluminal access, likely owing to the sleeve gastrectomy preceding her Roux-en-Y gastric bypass. The procedure was thus aborted.

After multidisciplinary discussions with colleagues in surgery and radiology, we discussed available options with the patient, including conservative management with interval imaging. After a thorough informed consent

process, including disclosures relating to off-label use of devices, the patient elected to undergo creation of EUS-guided enteroenteric anastomosis to facilitate access for ERCP during a subsequent procedure (Fig. 1). Six weeks after creation of the anastomosis, ERCP with biliary sphincterotomy and removal of the PTBD catheter was successfully performed (Figs. 2 and 3). Ultimately, the LAMS was removed 6 weeks after ERCP. The fistula was not endoscopically closed at the patient’s request because she wished to gain more weight, realizing that fistula closure may occur spontaneously. The patient remains well 3 months later.

This case posed unique challenges because the Roux-en-Y gastric bypass anatomy made access to the ampulla difficult with conventional endoscopy. Alternative options considered were laparoscopic-assisted ERCP and balloon-assisted enteroscopy with ERCP, both of which have significant limitations. Laparoscopic-assisted ERCP requires significant logistical coordination, is costly, and leads to a longer recovery period for patients. Balloon enteroscopy-assisted ERCP is technically difficult, is time-consuming, and has demonstrated dismal rates of technical success. To further complicate the situation, the patient had undergone a sleeve gastrectomy before revision to Roux-en-Y gastric bypass; thus, the working



Figure 1. Endosonographic image showing deployment of the lumen-apposing metal stent into the small bowel during creation of the jejunojejunostomy.

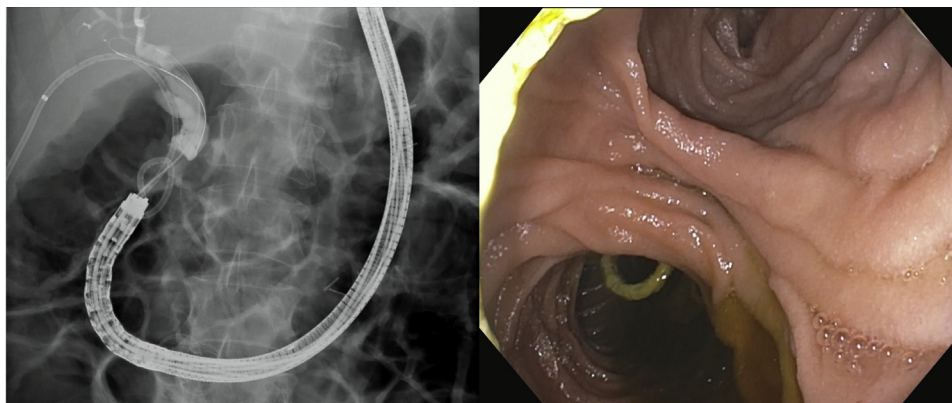


Figure 2. Endoscopic and fluoroscopic images demonstrating advancement of a gastroscope through the lumen-apposing metal stent to permit visualization of the ampulla with indwelling percutaneous transhepatic biliary drain.

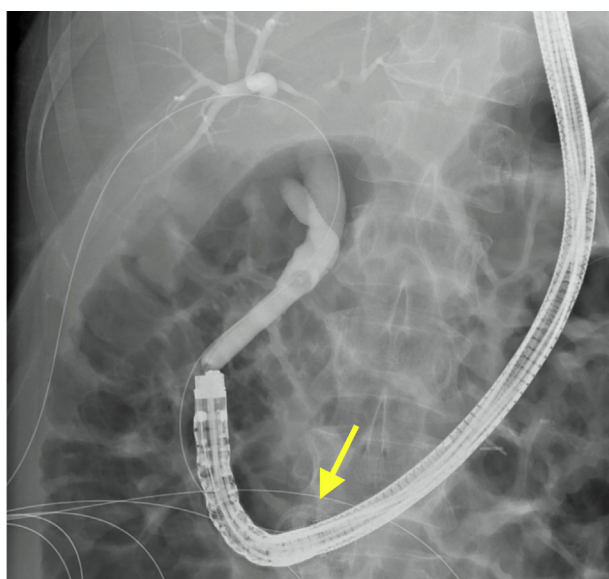


Figure 3. Transjejunal ERCP through the lumen-apposing metal stent (*arrow*) revealing a normal occlusion cholangiogram with no evidence of a distal bile duct stricture or mass.

space in the excluded gastric remnant was limited, preventing creation of a gastrogastric anastomosis.

In conclusion, patients who have undergone vertical sleeve gastrectomy with conversion to a Roux-en-Y gastric bypass present unique diagnostic and therapeutic challenges with regard to pancreaticobiliary disorders. In our case, EUS-guided enteroenterostomy could be used to

gain access to the pancreaticobiliary jejunal limb, thus providing a conduit for subsequent ERCP. This procedure allowed for endoscopic evaluation and treatment of ampullary stenosis in a minimally invasive fashion (Video 1, available online at www.VideoGIE.org).

DISCLOSURE

Dr Law is a consultant for Olympus America. All other authors disclosed no financial relationships.

Abbreviations: LAMS, lumen-apposing metal stent; PTBD, percutaneous transhepatic biliary drain.

REFERENCE

1. Sondhi AR, Hosmer AE, Sonnenday CJ, et al. EUS-guided gastroenterostomy by use of a lumen-apposing metal stent to facilitate ERCP in a patient with duodenal switch anatomy. *VideoGIE* 2019;4:567-9.

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