



Double-balloon enteroscopy with EUS-guided rendezvous for failed cannulation in patients with history of Roux-en-Y gastric bypass

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CASE PRESENTATION 1

A 71-year-old woman with a history of chronic pancreatitis and Roux-en-Y gastric bypass (RYGB) was referred to our center for management of choledocholithiasis, a distal common bile duct (CBD) stricture, and symptomatic pancreatolithiasis. The patient expressed concern about possible weight gain with EUS-directed transgastric ERCP (EDGE) and elected instead to proceed with double-balloon enteroscopy–assisted ERCP (DBE-ERCP).

Procedure Details

We used a double-balloon enteroscope to reach the ampulla. The pancreatic duct (PD) was cannulated, and two 5-mm filling defects were visualized in the main PD (Fig. 1). A pancreatic sphincterotomy was performed and both stones were evacuated using balloon sweeps. A prophylactic plastic stent was subsequently placed into the pancreas. Following this, despite multiple attempts, deep cannulation of the CBD could not be achieved. Considering the distal CBD stricture, retrograde access to the CBD using a needle knife was not considered to be feasible.^{1,2} It was hence decided to proceed with EUS-guided rendezvous biliary access. Using a curvilinear echoendoscope, we obtained a cholangiogram that revealed a dilated CBD with filling defects and a distal CBD benign appearing stricture. An angled 0.025-mm soft tip guidewire was navigated across the distal CBD stricture and coiled several times in the duodenum. The echoendoscope was subsequently withdrawn leaving the guidewire in place. The enteroscope was then re-inserted alongside the guidewire and,

using the previously placed tattoo as a guide, the ampulla was reached. The rendezvous wire was identified, and a modified sphincterotome (Fig. 2) was wedged onto the guidewire and railroaded into the CBD (Fig. 3).³ Deep cannulation of the CBD was achieved and a partial sphincterotomy and sphincteroplasty were performed. Using a standard extraction balloon, we evacuated all biliary stones and sludge. The rendezvous wire was subsequently withdrawn. Considering postsphincterotomy bleeding, a fully covered self-expandable metal stent (FC-SEMS) was placed (Fig. 4).

CASE PRESENTATION 2

A 70-year-old woman with a history of RYGB presented with symptomatic distal CBD filling defects and CBD dilatation. She underwent a DBE-ERCP in the prone position for further evaluation.

Procedure Details

Using a standard sphincterotome and guidewire, we made multiple attempts at cannulation of the CBD, resulting

Abbreviations: CBD, common bile duct; DBE-ERCP, double-balloon enteroscopy–assisted ERCP; EDGE, EUS-directed transgastric ERCP; FC-SEMS, fully covered self-expandable metal stent; PD, pancreatic duct; RYGB, Roux-en-Y gastric bypass.

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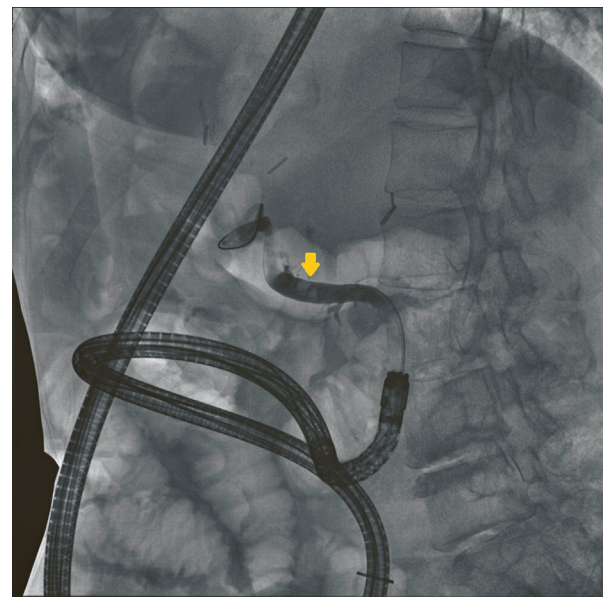


Figure 1. Pancreatogram with the patient in a prone position, revealing a dilated main pancreatic duct with 2 filling defects (yellow arrow).

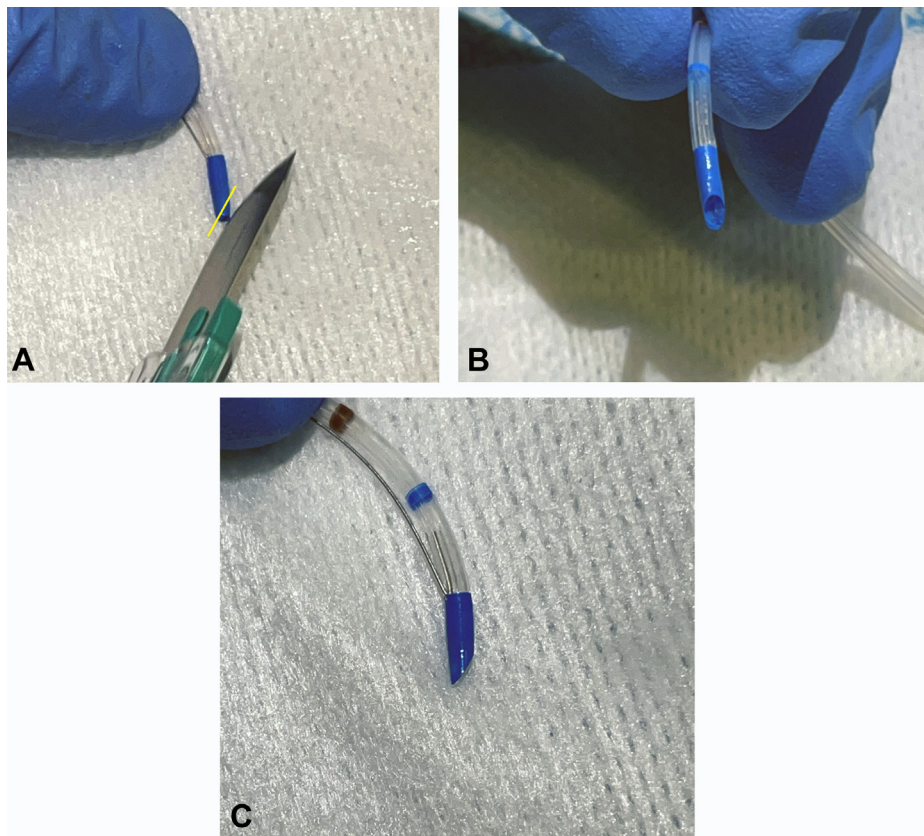


Figure 2. Bevel-shaped sphincterotome tip modification used for rendezvous. **A**, The *yellow line* depicts the angle at which to trim the tip of the sphincterotome. Of note, the side opposite the cutting wire is trimmed. Side view (**B**) and front view (**C**) of a completed bevel-shaped sphincterotome modification.

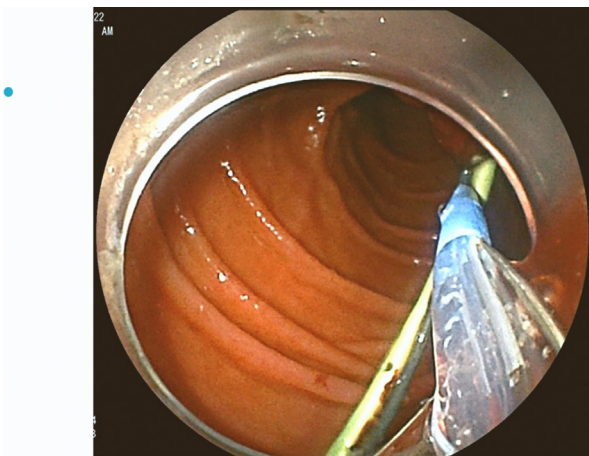


Figure 3. Image of a modified sphincterotome, anchored on a guidewire as it is being railroaded into the common bile duct.

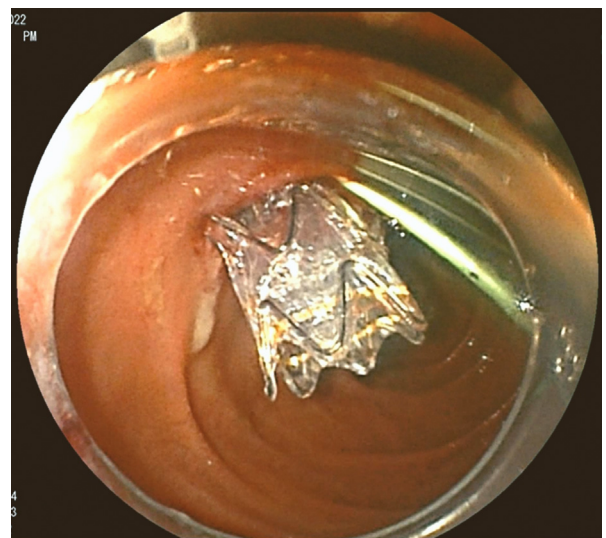


Figure 4. Image of a fully covered self-expandable metal stent and prophylactic pancreatic duct stent at completion of the procedure.

in repeated PD cannulation. After placing a plastic prophylactic PD stent, precut access using a needle knife was attempted and unsuccessful. EUS-guided rendezvous was performed using the technique described. On cholangio-

gram, the patient was noted to have a distal CBD stricture. Balloon dilatation, followed by biopsy and placement of a FC-SEMS, was accomplished.

PATIENT OUTCOMES

Both patients tolerated the procedure well and were discharged home. The histopathology on both patients supported benign disease, and they underwent interval stent removal via DBE-ERCP.

DISCUSSION

Achieving deep cannulation of the CBD can be technically challenging when using balloon-assisted enteroscopy.⁴⁻⁶ Advanced cannulation techniques such as precut-needle-knife access are generally reserved for challenging cases.^{7,8} When advanced cannulation fails, patients with a history of RYGB have traditionally been referred to interventional radiology or have been sent to centers with EUS expertise, and a staged EDGE is performed with the hope of cannulating the CBD using the broader array of available ERCP instruments. In patients with unaltered foregut anatomy, EUS-*rendezvous* is a commonly used option at this juncture. EUS-*rendezvous* is not usually used in the setting of RYGB because of the perceived procedural complexity.

CONCLUSION

Here, we demonstrate successful EUS-guided *rendezvous* in 2 patients with a history of RYGB (Video 1, available online at www.videogie.org), in whom retrograde access to the CBD was not achieved via DBE-ERCP. EUS-guided biliary access should be considered a viable option for such patients, provided the ampulla can be reached via enteroscopy.

DISCLOSURE

Dr Yang is a consultant for Microtech, Medtronic, Olympus, Fujifilm, and Apollo Endosurgery. Dr Arain is a consultant for Cook Medical, Merit, Boston Scientific, and Olympus. Dr Hasan is a consultant for Boston Scientific and Olympus. All other authors disclosed no financial relationships.

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