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EUS-guided bilateral biliary access and metal stent placement post-Whipple resection

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BACKGROUND

Hilar obstruction of both the right hepatic duct (RHD) and left hepatic duct (LHD) in patients with altered anatomy generally requires ERCP with bilateral stent placement for adequate palliation. In patients with altered anatomy, it

may not always be possible to reach or locate the anastomosis endoscopically. In the case of a failed ERCP, patients often require bilateral percutaneous drains. In this video case report, we show that complete drainage can be achieved in a single session using an antegrade and rendezvous approach.

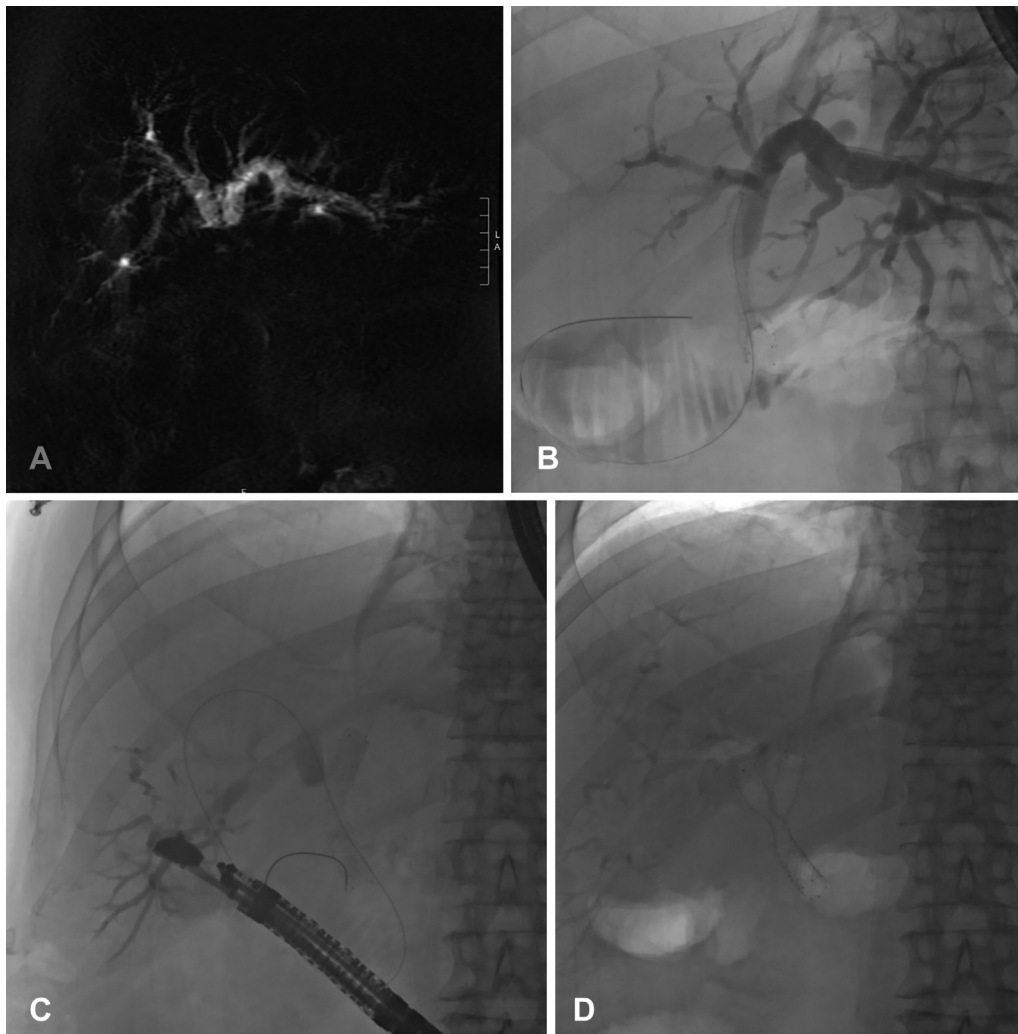


Figure 1. **A,** MRCP shows near complete bilateral obstruction of the biliary tree. **B,** Left lobe puncture followed by antegrade stent deployment. **C,** Right lobe puncture followed by advancement of wire through the mesh of a previously deployed metal stent. **D,** Final film after stent deployment showing pneumobilia and drainage of contrast.

CASE

The patient was a 66-year-old man status post-Whipple resection for pancreatic adenocarcinoma. He later developed recurrence with liver metastasis, biliary hilar obstruction, and jaundice. The patient had afferent limb obstruction with a previously placed AXIOS (Boston Scientific, Marlborough, Mass, USA) stent. MRCP showed intrahepatic biliary dilatation and bilateral obstructions of the LHD and RHD (Fig. 1). We discussed the risks and benefits of various approaches for drainage, and the patient ultimately elected for enteroscopy ERCP with EUS-guided drainage as a back-up option.

PROCEDURE

The hepaticojejunostomy was identified in the biliary limb but was completely obstructed by the tumor. Attempts to cannulate were unsuccessful. EUS-guided biliary drainage (Video 1, available online at www.giejournal.org) was then performed. The LHD was accessed from the stomach using a linear therapeutic echoendoscope and a 19-gauge needle. A cholangiogram was performed and revealed a 3-cm-long stricture of the LHD and no contrast filling of the RHD.

A 0.025-inch guidewire was advanced through the stricture and coiled in the bowel. A 10-mm × 6-cm, laser cut, uncovered metal biliary stent was placed through the stricture using an antegrade approach under fluoroscopic guidance. Dilation was performed by passing the 5F catheter and cautery, and balloon dilation was not required. A duodenoscope was then advanced to the biliary anastomosis. The metal stent was in a good position. Attempts to cannulate the RHD through the mesh of the metal stent were unsuccessful. A clinical decision was made to access the RHD via a rendezvous approach. A branch of the RHD was punctured using a 19-gauge needle through the afferent limb of the gastrojejunostomy fistula.

A 0.025-inch wire was successfully advanced into the RHD, through the mesh of the existing stent, and coiled in the jejunum. To not lose access after the puncture,

the duodenoscope was then reinserted and the rendezvous wire was secured using a snare and was pulled out through the mouth to “floss” the wire. The duodenoscope was then used to successfully cannulate the RHD while using the rendezvous wire as a guide. A cholangiogram showed a high-grade obstruction of the right hepatic duct immediately proximal to the bifurcation. The stricture and mesh of the metal stent was dilated using a 4-mm balloon followed by placement of a 10-mm × 6-cm, laser cut, uncovered metal stent in a Y configuration. Total procedure time was 2 hours.

The patient was admitted overnight for observation after the procedure. The patient did not experience any immediate or delayed adverse events. The following day, the patient's total bilirubin improved from a prior value of 10 to 7.8 mg/dL. At his, the last follow-up was 3 months post-procedure, and total bilirubin was in the normal range.

CONCLUSIONS

A single-session antegrade and rendezvous approach for drainage of separate obstructions of the left and right hepatic ducts is feasible in experienced hands and prevents the need for bilateral percutaneous drains.

DISCLOSURE

Dr Arain is a consultant for Boston Scientific, Olympus, and Medtronic.

Abbreviations: LHD, left hepatic duct; RHD, right hepatic duct.

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