



Conversion of a dysfunctional choledochoduodenostomy to transpapillary drainage via a trans-lumen-apposing metal stent choledochoduodenostomy

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Recurrent biliary obstruction, as a stent dysfunction parameter, is a major issue to consider after EUS biliary drainage using lumen-apposing metal stents (LAMSs). Several cases of stent dysfunction (eg, food or sludge impaction, tumoral invasion, stent migration, and sump syndrome) have been documented, suggesting a possible limitation in LAMS design when EUS choledochoduodenostomy is performed.^{1,2}

A 75-year-old woman with biliary obstruction secondary to borderline pancreatic neoplasm and failed ERCP because of ampulla infiltration underwent EUS-guided choledochoduodenostomy (8- × 8-mm LAMS + coaxial 7F × 5-cm pigtail). Because of dysfunction in the endoscopic biliary drainage (sump syndrome type) requiring several admissions, a conversion to transpapillary drainage was considered. During a hospital admission for acute cholecystitis, the patient underwent percutaneous cholecystostomy by the radiology department.

Although an interventional radiologist is available on duty and has a potential role in failed ERCP in our institution, in this scenario, the decision to perform fully endoscopic management was made, taking advantage of the pre-existing choledochoduodenostomy (over the cholecystostomy).

ENDOSCOPIC METHODS

The coaxial pigtail was removed and a guidewire was advanced antegradely trans-LAMS toward the papilla using a therapeutic gastroscope, without success (failed rendezvous) (Fig. 1).

Abbreviation: CDS, choledochoduodenostomy; LAMS, lumen-apposing metal stent.

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2468-4481

<https://doi.org/10.1016/j.vgie.2023.05.016>

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No attempt at antegrade stenting through the LAMS was made because of the acute angulation into the lower common bile duct. Therefore, a peroral antegrade cholangioscopy-guided rendezvous via trans-LAMS was preferred.

First, cholangioscope insertion via choledochoduodenostomy (through LAMS, and using a therapeutic gastroscope) was done in an antegrade direction. The cholangioscope facilitates control of the guidewire control in the desired direction, which allows the advancement of a 0.025-inch guidewire through the tumoral stenosis up to the duodenal lumen. Scope progression over the guidewire and through the papilla exerted a bougie effect against the pancreatic tumor (Fig. 2).

Second, we withdrew the gastroscope and the cholangioscope and exchanged them for a duodenoscope. The duodenoscope should be inserted until one can visualize the previously inserted antegrade guidewire. Retrograde biliary cannulation was made using a precut (needle-knife) and monorail technique (homemade modified 3.9F



Figure 1. Fluoroscopy image of lumen-apposing metal stent (8 × 8 mm) plus a coaxial pigtail plastic stent (7F × 5 cm), placed in a previous EUS-guided choledochoduodenostomy. Pre-existing percutaneous catheter drainage of a cholecystostomy performed by a radiologist is observed.

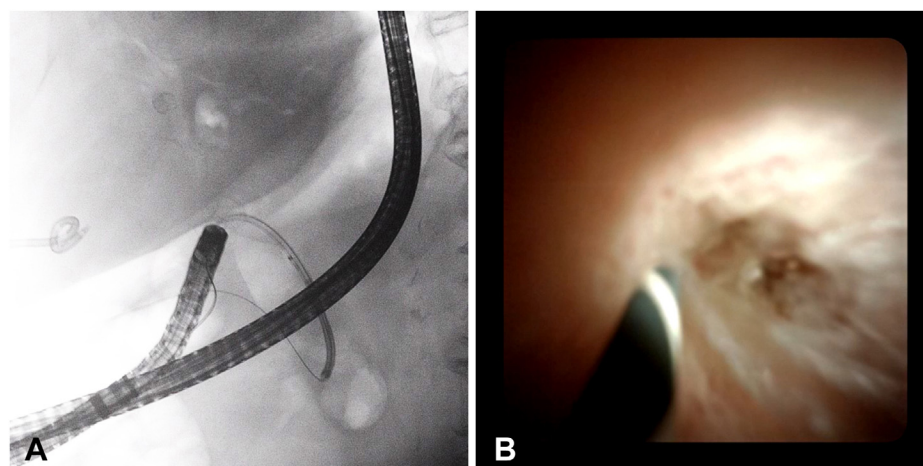


Figure 2. A, Fluoroscopy and endoscopy image of peroral antegrade cholangioscopy-guided rendezvous via trans-LAMS (lumen-apposing metal stent). B, Cholangioscope insertion via choledochoduodenostomy (through LAMS) in an antegrade direction, which allows the advancement of a 0.025-inch guidewire through the tumoral stenosis until it reaches the duodenal lumen.

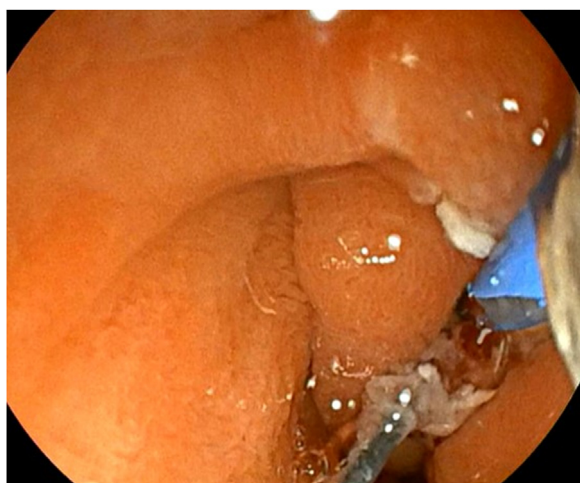


Figure 3. Retrograde biliary cannulation using the monorail technique (homemade modified 3.9F sphincterotome).

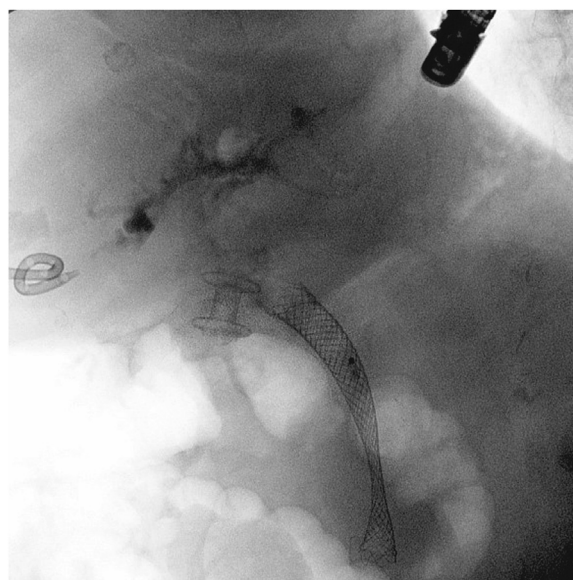


Figure 4. Fluoroscopy image showing both stents. Transpapillary drainage with a partially covered self-expandable metal stent, with its proximal cup just distal to the lumen-apposing metal stent (choledochoduodenostomy).

sphincterotome³) up to intrahepatic radicals (Fig. 3). Finally, transpapillary drainage was carried out with a partially covered self-expandable metal stent; we placed its proximal cup just distal to the choledochoduodenostomy, allowing removal of the LAMS (Fig. 4; Video 1, available online at www.videogie.org).

Procedure duration was 1 hour. Prophylactic antibiotics were administered, and no adverse events were reported. Clinical improvement on follow-up allowed assessment for potential chemotherapy, but progression of the malignancy left the patient unfit for surgery.

This is a case of a recurrent biliary obstruction caused by sump syndrome with dysfunctional endoscopic biliary drainage (choledochoduodenostomy) in a potentially surgical patient. A conversion of transmural to transpapil-

lary drainage was planned and technically performed without incidents by using an antegrade trans-LAMS cholangioscopy.

DISCLOSURE

Dr Gornals is consultant for Boston Scientific and has received a research grant from Fujifilm. The other authors disclosed no financial relationships.

ACKNOWLEDGMENTS

The authors acknowledge the CERCA Programme/Generalitat de Catalunya for institutional support. The patient of this case was recruited for a randomized trial (multicenter study of lumen-apposing metal stents with or without pigtail in EUS-guided biliary drainage for malignant obstruction [BAMPI trial: an open-label, randomized controlled trial protocol; ClinicalTrials.gov: NCT04595058]). The authors also acknowledge the institutions and scientific societies that provided support via grants to the BAMPI trial (Sociedad Española de Endoscopia Digestiva and Societat Catalana de Digestologia).

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