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Fast endoscopic rendezvous to the rescue after maldeployment of lumen-apposing metal stent during endoscopic ultrasound-guided choledochoduodenostomy

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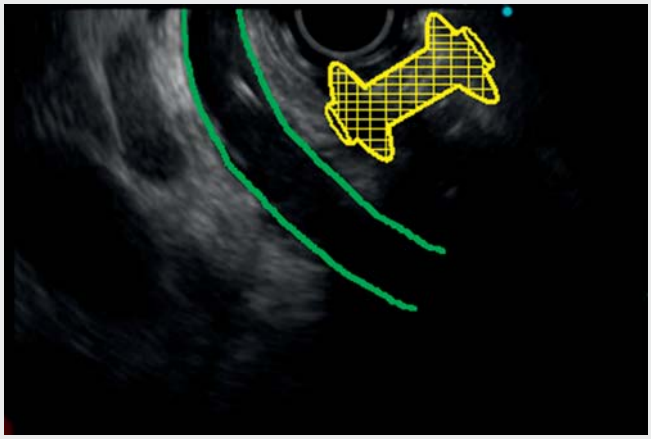

Video 1 Maldeployment of lumen-apposing metal stent during endoscopic ultrasound choledochoduodenostomy managed by advancing a guidewire directly through the choledochal breach followed by endoscopic retrograde cholangiopancreatography rendezvous with transpapillary biliary stent placement and clips to seal the perforation.

▶ **Fig. 1** Evidence of gross biliary leak and bile duct opacification.

▶ **Fig. 2** Biliary stent and clip closure of the duodenal defect.

▶ **Fig. 3** Final occlusion cholangiogram showed no calculi or biliary leak.

A 70-year-old woman with acute cholangitis was referred to our unit for treatment. Complex choledocholithiasis with impacted stones prevented endoscopic retrograde cholangiopancreatography (ERCP) and the patient underwent biliary drainage by endoscopic ultrasound (EUS)-guided choledochoduodenostomy (CDS) using a cautery-enhanced 8×8-mm lumen-apposing metal stent (LAMS) over a guidewire.

After LAMS release, EUS imaging revealed maldeployment of the distal flange of the LAMS between the common bile duct (CBD) and duodenal wall. This was probably due to an angled scope tip and difficulty in manipulating the guidewire (stripping of the guidewire occurred) (▶ **Video 1**).

Passage of purulent fluid was visible through the LAMS endoscopically. The EUS scope was replaced with a gastroscope to easily inject contrast through the LAMS. The fluoroscopic view showed a subhepatic leak and quick opacification of the biliary tree (▶ **Fig. 1**).

Careful inspection through the LAMS lumen using the front view gastroscope enabled us to identify the breach in the CBD: a guidewire was advanced antegrade through a 5-Fr biliary catheter into the CBD to the duodenum. This allowed transpapillary insertion of a guidewire with a sphincterotome using a duodenoscope. Then a fully covered metal stent was inserted to enable biliary drainage and closure of the perforation. The LAMS was removed, and the duodenal perforation was closed using two clips (▶ **Fig. 2**).

The post-procedure period was uneventful and the patient was discharged after 6 days of hospitalization. Four weeks later the biliary stent was removed, choledo-

chal stone clearance was completed, and the occlusion cholangiogram confirmed that the biliary leak was sealed (▶ **Fig. 3**). Maldeployment of a LAMS during EUS-CDS can lead to a double perforation and requires prompt recognition and management [1]. When feasible, endoscopic rescue therapies are effective in managing this serious adverse event [2–5]; endoscopists should be aware of possible solutions to a serious complication that would otherwise require a surgical approach.

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Competing interests

The authors declare that they have no conflict of interest.

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