ORIGINAL ARTICLE

ERCP transpapillary nasogallbladder drainage: a last resort for endoscopic management of cholecystitis

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BACKGROUND

Endoscopic management options for patients with cholecystitis who are not surgical candidates include EUS-guided transmural gallbladder drainage (EUS-GBD) and ERCP with transpapillary gallbladder drainage.[1,2] While EUS-GBD has demonstrated higher rates of technical and clinical success,[2] it is not always technically feasible. ERCP with transpapillary gallbladder drainage can be performed either internally with stents (EGBS) or externally with a nasogallbladder drain (ENGBD), both yielding similar short-term clinical success rates.[1,3] Because internal drainage has the benefit of avoiding the discomfort of a nasal catheter, EGBS is more commonly practiced. Although long-term EGBS had been reported to be associated with recurrent cholecystitis in 5% to 19% of patients,[2,4-6] the time to recurrence may be extended with double-stent therapy as compared with single-stent therapy.[7] However, in cases where both EUS-GBD and EGBS fail, ENGBD should be considered as the last resort in management.

This work was done under institutional review board approval (#14143).

CASE

A 64-year-old man with unresectable locally advanced hilar cholangiocarcinoma on palliative chemotherapy was admitted with abdominal pain, nausea, and fever. A CT scan showed findings consistent with cholecystitis, and his colon was noted to be positioned between the gallbladder and duodenum (Fig. 1). Despite antibiotics, he had worsening leukocytosis. He was deemed a nonsurgical candidate by the hepatobiliary surgeons. He wished to avoid percutaneous drainage; therefore, endoscopic options were discussed. EUS-GBD was attempted first because of its higher technical and clinical success rates. However, we were unable to find a window that was free of colonic wall to allow a safe puncture (Fig. 2).

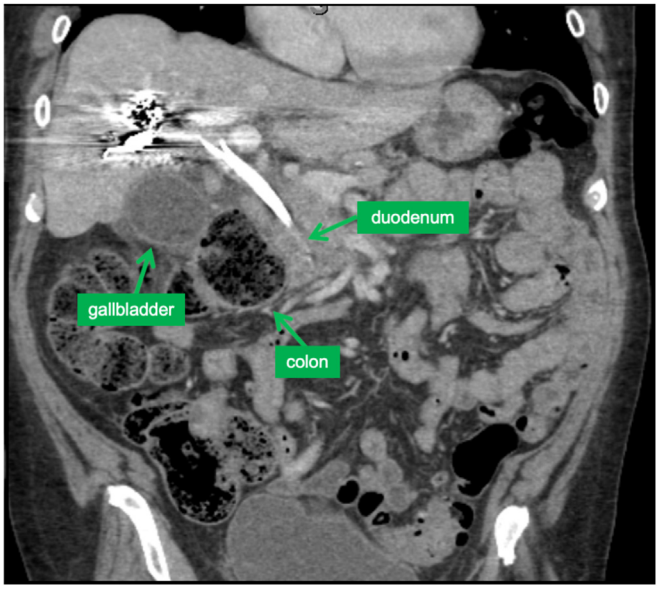

Figure 1. A CT scan demonstrated cholecystitis and concern for the colon interposed between the duodenum and gallbladder.

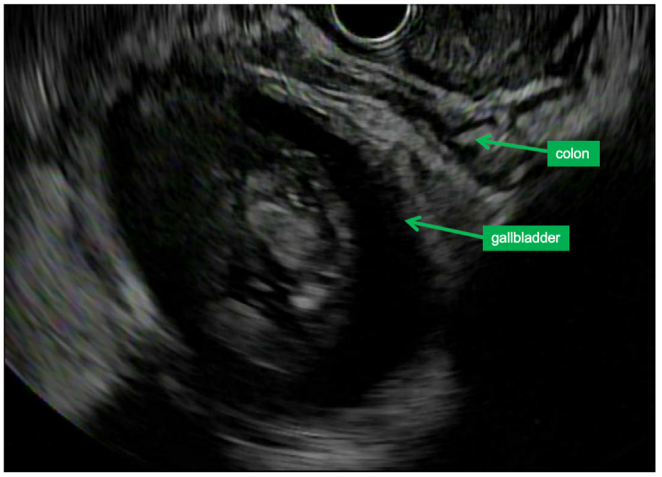

Figure 2. During EUS, we were unable to find a window that was free of colonic wall for safe puncture of the gallbladder.

Abbreviations: EGBS, ERCP with transpapillary gallbladder stenting; ENGBD, ERCP with transpapillary nasogallbladder drain; EUS-GBD, EUS-guided transmural gallbladder drainage.

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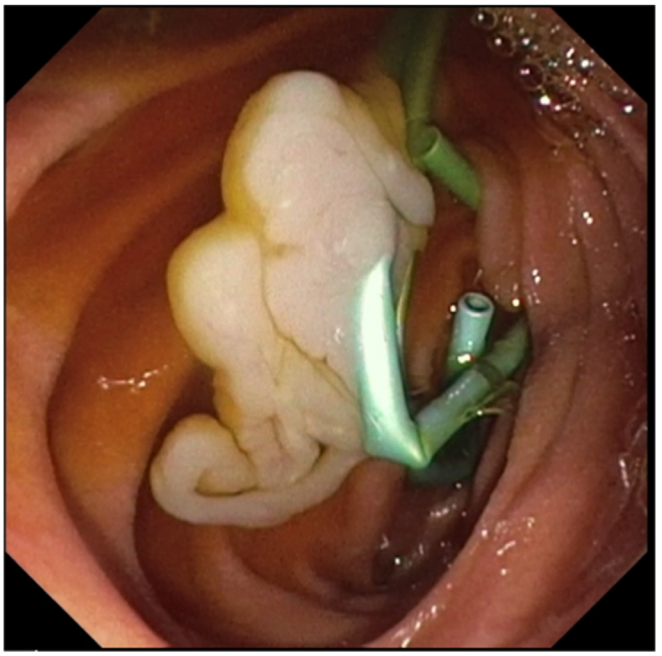

Figure 3. Kinking of the transpapillary stent led to rapid occlusion of the stent with pus seen on endoscopic exam.

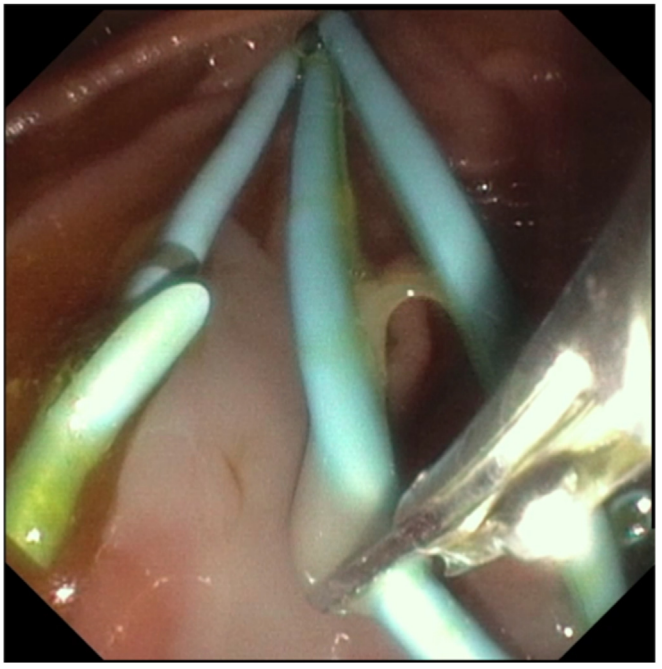

Figure 4. Because of prior difficult access and difficulty passing the guidewire along the kinked stent, endoscopic scissors were used to cut the kinked stent.

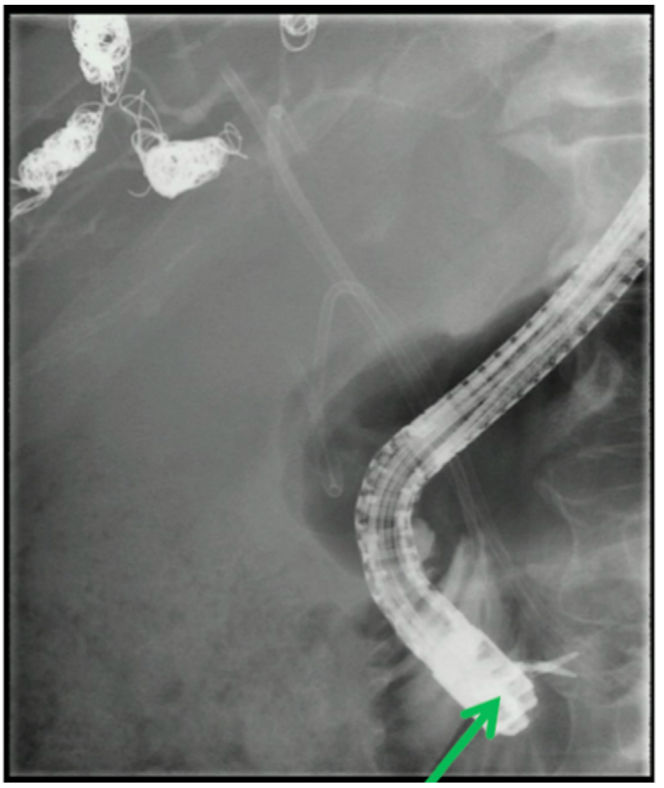

Figure 5. Fluoroscopy demonstrated use of endoscopic scissors for cutting the kinked stent.

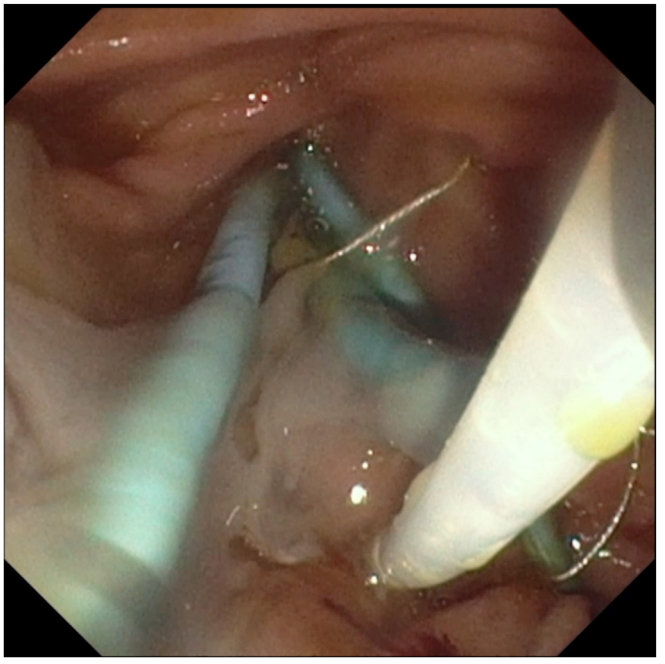

Figure 6. Snare placed over the guidewire to remove the cut stent, allowing the guidewire to be left in place in the gallbladder.

Thus, ERCP with transpapillary gallbladder stenting was pursued. Many challenges were encountered during the patient's clinical course, including the kinking of a soft double-pigtail stent (Fig. 3), which led to recurrent cholecystitis and difficulty cannulating the cystic duct, requiring (1) endoscissors to cut a stent to allow guidewire access (Figs. 4 and 5) with subsequent over-the-wire stent removal (Fig. 6), and (2) cholangioscope-

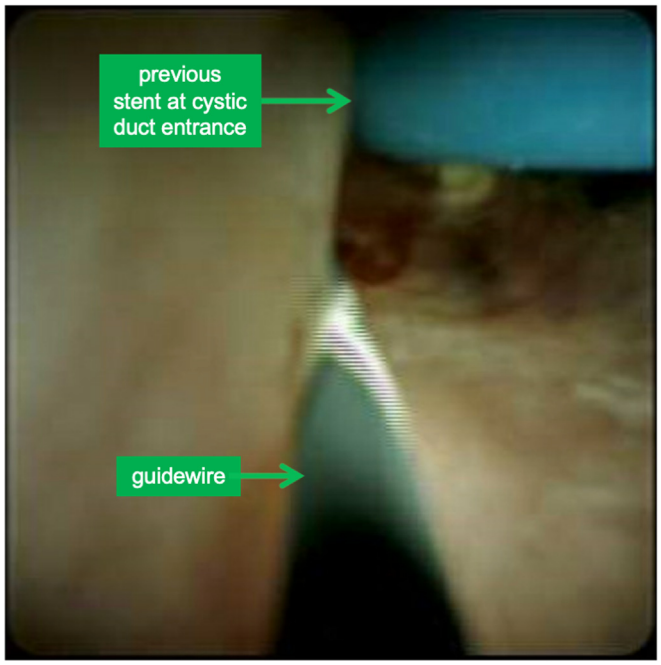

Figure 7. Cholangioscopy used to help identify the cystic duct entrance for guidewire placement.

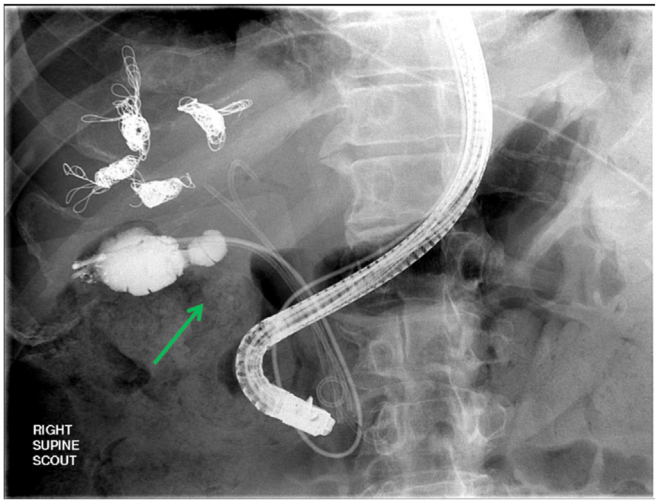

Figure 8. Nasogallbladder drain (*arrow*) injected with contrast to confirm a small and contracted gallbladder, suggestive of resolution of cholecystitis.

assisted guidewire placement (Fig. 7). Ultimately, ERCP with transpapillary nasogallbladder drainage was needed to effectively treat the cholecystitis (Fig. 8). However, during the first attempt of using a nasogallbladder drain, it was removed shortly after placement, which led to rapid recurrence of cholecystitis. It was only after the nasogallbladder drain was left in place for 2 weeks with scheduled flushing that the cholecystitis completely resolved, and then the drain was safely removed. Since the nasogallbladder drain was last removed 9 months before the time of writing, the patient has been clinically free of cholecystitis (Video 1, available online at www.videogie.org).

CLINICAL IMPLICATIONS

In the rare situation where there is no window for an EUS-GBD, ERCP transpapillary stenting is a feasible option for cholecystitis in nonsurgical patients. Soft stents should be avoided for transpapillary stenting as they may be more prone to kinking, leading to rapid occlusion. If one stent fails, a second stent can help, and a nasogallbladder drain can be the last option. If a nasogallbladder drain is placed, it should be given adequate time before removal—until the aspirate consistently returns bilious. Patients can be taught to flush and suction the drain at home.

CONCLUSION

When EUS-GBD is not an option and ERCP with transpapillary stenting fails, ERCP with at least 2 weeks of transpapillary nasogallbladder lavage can be considered for patients who wish to avoid percutaneous drainage.

DISCLOSURE

Dr Irani is a consultant for Boston Scientific, ConMed, and GORE. Dr Cui did not disclose any financial relationships.

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