

In “hot” pursuit of an evasive gallbladder

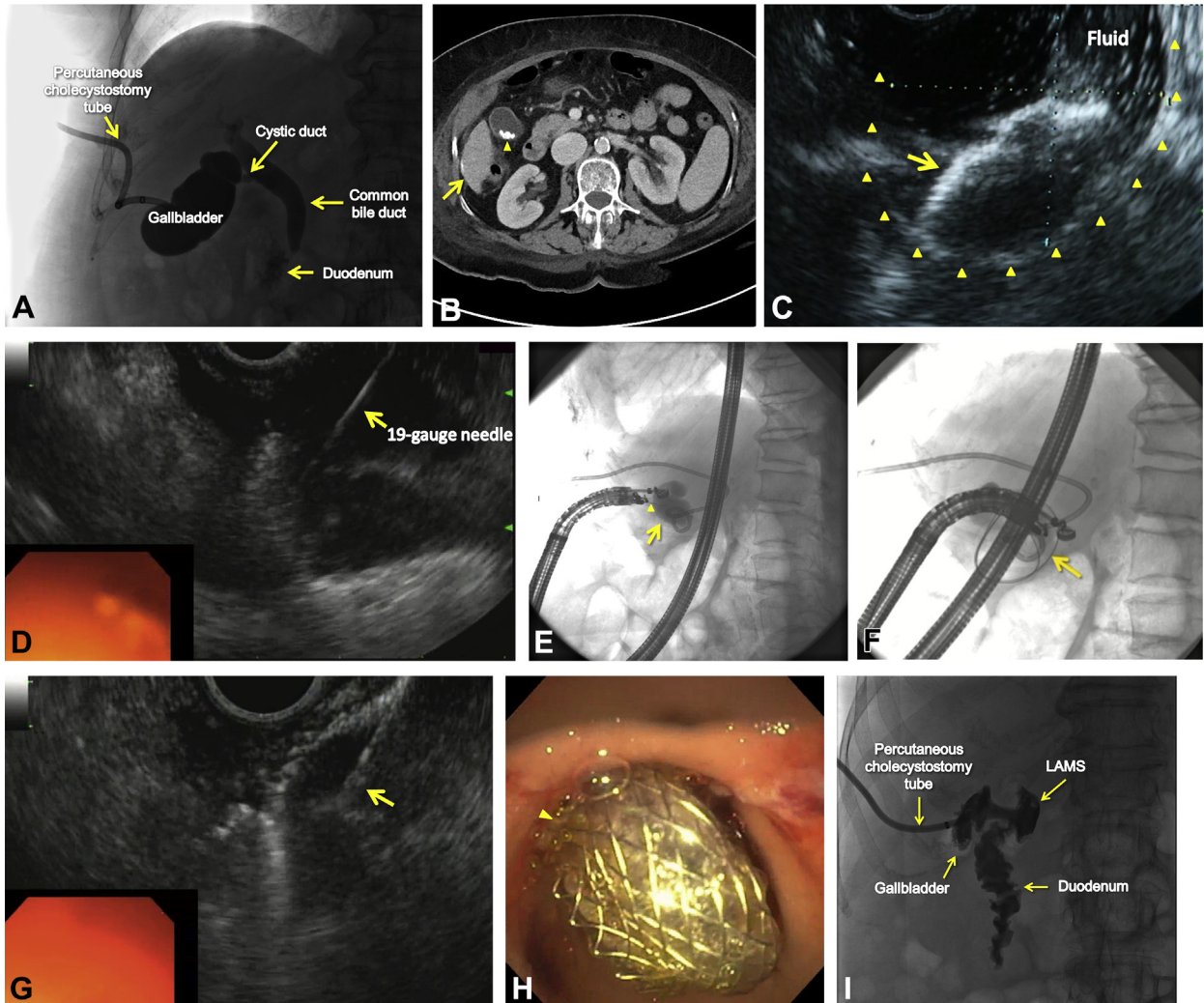


Figure 1. **A**, Preprocedural sinogram revealing opacification of the patent common bile duct with contrast material emptying into the duodenum. **B**, CT scan revealing gallbladder stones (*arrowhead*) and a cirrhotic liver (*arrow*). **C**, EUS view revealing a percutaneous cholecystostomy drain (*arrow*) in a distended gallbladder (*arrowheads*) with normal saline solution in its interior (*bubbles*). **D**, EUS view demonstrating the 19-gauge needle puncturing the gallbladder from the duodenum. **E**, Fluoroscopic view showing 19-gauge needle (*arrowhead*) and contrast material in the gallbladder (*arrow*). **F**, Fluoroscopic view revealing 3 loops of a 0.035-inch guidewire within the gallbladder (*arrow*). **G**, EUS view showing fully deployed distal flange of the stent (*arrow*) within the gallbladder. **H**, Endoscopic view showing the proximal flange of the lumen-apposing metal stent (LAMS) deployed in the duodenal bulb (*arrow*). Bile can be appreciated flowing through the catheter (*arrowhead*). **I**, Fluoroscopic view revealing contrast material flowing through the percutaneous cholecystostomy tube into the gallbladder and into the duodenum, further confirming adequate stent placement.

A 75-year-old woman with end-stage liver disease and recurrent calculous cholecystitis, treated with a percutaneous cholecystostomy tube (PCT) because of her poor surgical candidacy, was referred for alternative gallbladder drainage. Two prior tube dislodgments causing abdominal

pain had significantly affected her quality of life ([Video 1](#), available online at www.VideoGIE.org). After careful multidisciplinary evaluation, a decision was made to endoscopically internalize the gallbladder drainage in replacement of the PCT.

Written transcript of the video audio is available online at www.VideoGIE.org.

Sinography revealed patent cystic and common bile ducts (Fig. 1A). A CT scan revealed cholelithiasis and a cirrhotic liver (Fig. 1B). Despite duct patency, gallbladder drainage was necessary to prevent future calculous cholecystitis. A nondistended gallbladder rendered secure transenteric access challenging. Moderate thrombocytopenia and increased international normalized ratio (INR) were noted (platelets: $63 \times 10^9/L$; INR: 1.4). Gastroesophageal varices were not visualized on EGD. During EUS, a satisfactory window without venous collaterals was achieved from the duodenal bulb. Copious amounts of sterile saline solution were injected through the PCT to distend the gallbladder, optimizing visualization (Fig. 1C). The gallbladder was punctured with a 19-gauge EUS needle (Figs. 1D and E), and a 0.035-inch guidewire was subsequently passed through it, creating 3 loops of wire within the gallbladder to ensure adequate access (Fig. 1F). The EUS needle was exchanged for the fully covered lumen-apposing metal stent (LAMS) (HotAxios Stent, 15×10 mm, Boston Scientific, Natick, Mass). One hundred watts in pure cutting mode were applied to advance the catheter. However, excessive looping of the wire made progression unfeasible. The wire was slightly pulled back, and with the application of cautery, the catheter was advanced smoothly. The distal and proximal flanges of the stent were deployed under endosonographic and endoscopic guidance, respectively (Figs. 1G and H).

Injection of contrast material from the PCT demonstrated secure transenteric communication (Fig. 1I). At 1-week follow-up, the patient was asymptomatic, and the PCT was successfully removed in clinic.

Long-term use of PCT in patients unfit for surgery can cause significant morbidity. LAMSs are being increasingly used in patients with acute and recurrent cholecystitis to internally drain the gallbladder. In this video, we demonstrate how the use of saline solution injection through the PCT helped distend the gallbladder, optimizing visualization and stent deployment. Successful EUS-guided internal gallbladder drainage was achieved in a patient with long-term troublesome PCT.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Lady Katherine Mejía Pérez, MD, Bhaumik Brahmhatt, MBBS, Victoria Gómez, MD, Division of Gastroenterology and Hepatology, Mayo Clinic, Jacksonville, Florida, USA

Copyright © 2017 American Society for Gastrointestinal Endoscopy. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<http://dx.doi.org/10.1016/j.vgie.2017.06.001>