ORIGINAL ARTICLE

EUS-guided gallbladder drainage in a patient with Billroth II reconstruction

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INTRODUCTION

Cholecystectomy is the standard therapy for patients with acute cholecystitis. However, EUS-guided gallbladder drainage (EUS-GBD) is an endoscopic technique shown to be a technically feasible option for patients, especially those deemed too high risk for surgical options because of comorbidities or level of illness.

Figure 1. US of the gallbladder showing stones.

Abbreviations: EUS-GBD, EUS gallbladder drainage; LAMS, lumen-apposing metal stent.

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CASE DESCRIPTION

A 54-year-old woman with COVID-19 in 2021, complicated by chronic systolic heart failure (ejection fraction 30%) requiring biventricular pacemaker/defibrillator, hypertension, history of intentional lye ingestion in 2002 resulting in gastric perforation requiring Billroth II gastrojejunostomy, and more than 20 esophageal dilations for recurrent strictures, presented with 1 day of biliary colic. At presentation, vitals were normal with the examination demonstrating right upper quadrant abdominal tenderness and a positive Murphy sign. Total bilirubin was normal; alkaline phosphatase was elevated to 146 IU/lt; aspartate aminotransferase was 216 IU/lt; and alanine aminotransferase was 298. An abdominal US demonstrated a distended gallbladder and gallstones without biliary duct dilatation or choledocholithiasis (Fig. 1).

Because of high surgical risk and the desire to avoid percutaneous drainage, the patient opted for EUS-GBD

Figure 2. ERCP with cholangiogram and pancreatic duct stent.

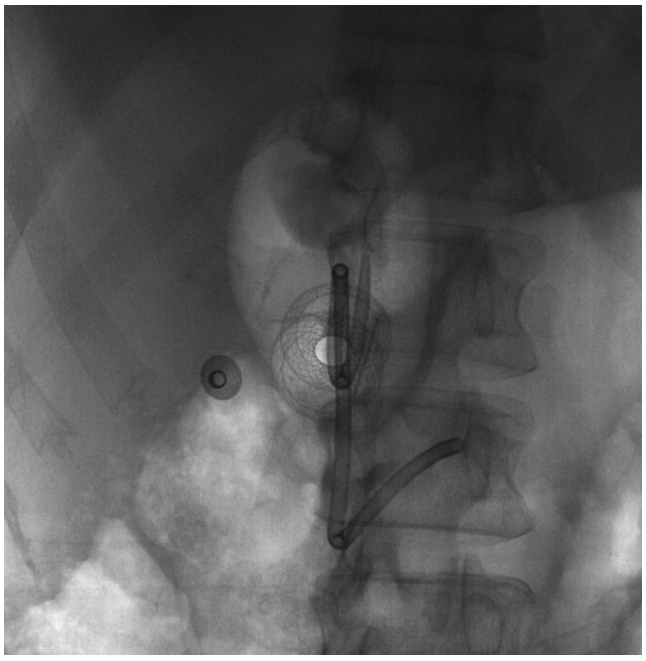

Figure 3. Fluoroscopic image of successful cholecystoenterostomy.

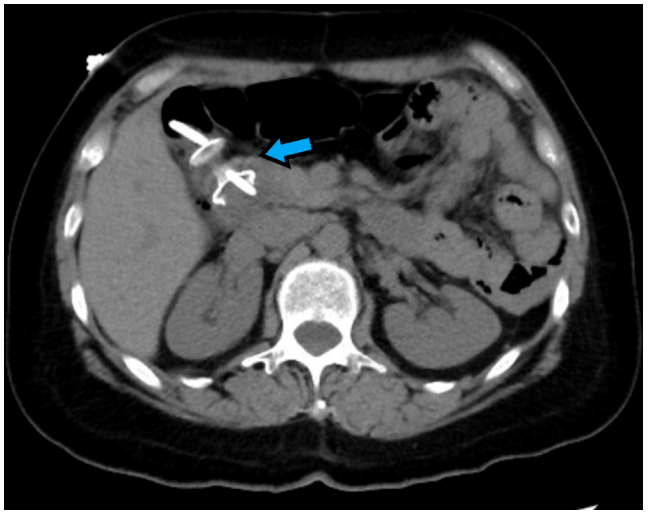

Figure 4. AXIOS (Boston Scientific, Marlborough, Mass, USA) and double-pigtailed stent appearance on a CT scan (axial image).

following an ERCP. An enteroscopy was performed to identify the afferent enteral limb. After inadvertent pancreatic duct cannulation, a 4F × 4-cm single-pigtailed stent was placed into the pancreatic duct. The bile duct was then easily cannulated, revealing a patent cystic duct and normal main bile duct without dilatation, stenosis, or stones (Fig. 2).

The therapeutic echoendoscope was then used to successfully perform an EUS-GBD using a 15- × 10-mm lumen-apposing metal stent (LAMS), anchored with a 10F × 3-cm double-pigtailed plastic stent following dilation of the LAMS to 8 mm with a balloon dilation device (Video 1, available online at www.giejournal.org; Fig. 3).

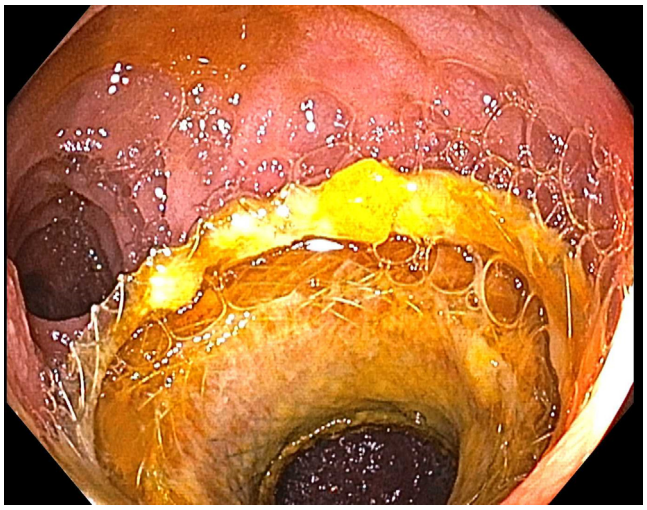

Figure 5. Appearance of AXIOS before removal.

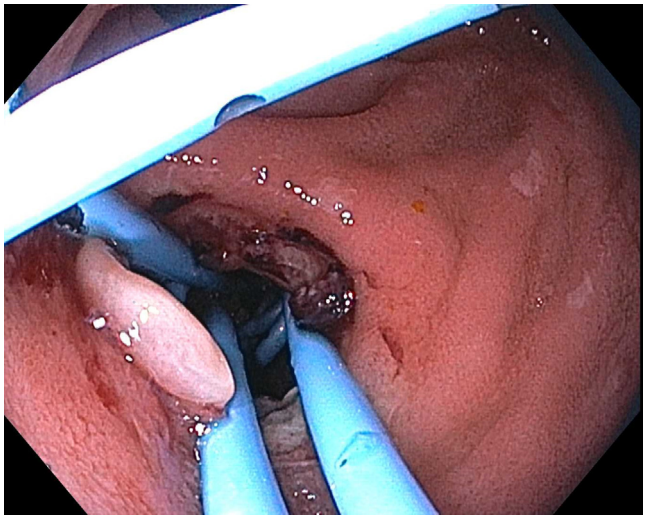

Figure 6. Double-pigtailed stents to maintain patent cholecystoenteric fistula.

The patient did well without any adverse events. A postprocedural CT scan was performed on postprocedure day 3 and showed no obvious intra-abdominal adverse event (Fig. 4). A follow-up endoscopy was performed 8 weeks after LAMS placement for removal of the double-pigtailed stent and LAMS (Fig. 5) and for placement of three 7F × 7-cm double-pigtailed plastic stents to maintain indefinite patency of the cholecystoenteric fistula (Fig. 6).

CONCLUSION

EUS-GBD is a technically feasible and clinically useful approach for treatment of acute cholecystitis even in patients with Billroth II gastrojejunostomy anatomy.

DISCLOSURE

Dr Villa is a consultant for Medtronic plc, Noah Medical Inc, and Olympus Corp. All other authors disclosed no financial relationships.

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