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DOI: 10.17235/reed.2022.9315/2022

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:

Chavarría Carlos, Sancho-del Val Lorena, Rueda-Camino José Antonio, Cuadrado-Tiemblo Cristina, Castaño-Milla Carlos. EUS-guided gallbladder drainage as treatment of acute perforated cholecystitis. Rev Esp Enferm Dig 2022. doi: 10.17235/reed.2022.9315/2022.

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EUS-guided gallbladder drainage as treatment of acute perforated cholecystitis

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Keywords: EUS-guided gallbladder drainage. Perforated cholecystitis. Lumen apposing-metal stent.

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Competing interests: *All authors disclosed no financial relationships.*

Funding: *None*

Dear Editor,

We present the case of an 86-year-old female with dementia and multiple medical comorbidities. She was admitted to our hospital with abdominal pain and vomiting. Laboratory analysis highlighted the presence of leukocytosis with increased inflammatory markers. Abdominal ultrasound revealed acute lithiasic cholecystitis with gallbladder perforation and perivesicular collections. Any surgical treatment was considered too risky, and therefore, EUS-guided gallbladder drainage (EUS-GBD) was attempted.

A linear echoendoscope revealed a type II perforated gallbladder according to the Niemier classification. Gallbladder puncture was performed with a 19G needle and contrast was injected to visualize it by fluoroscopy. From the gastric antrum under endosonographic view, a 10x10 mm electrocautery-enhanced lumen-apposing metal-stent (EC-LAMS) was placed using free-hand technique with intra-channel release. The creation of the cholecystoenteric fistula was verified by visualizing bile outflow through the LAMS and the emptying of the contrast in the fluoroscopic image (Figure 1).

The patient was discharged five days after the procedure and remains asymptomatic two months later without further hospital readmissions.

DISCUSSION

Acute perforated cholecystitis is a rare but severe complication of acute cholecystitis with a mortality rate of 12-42%(1). Currently, EUS-GBD using LAMS is the preferred choice for gallbladder drainage in high-risk surgical patients with acute cholecystitis unfit for cholecystectomy(2). However, it has been suggested to avoid this procedure when there is suspicion of gallbladder perforation or necrosis (3). The evidence of EUS-GBD in this setting is scarce. This case demonstrates that EUS-GBD with LAMS can be effective in the management of type II perforation of the gallbladder.

References

1. Date RS, Thrumurthy SG, Whiteside S, et al. Gallbladder perforation: case series and systematic review. *Int J Surg*. 2012;10(2):63-8.
2. van der Merwe SW, van Wanrooij RLJ, Bronswijk M, et al. Therapeutic endoscopic ultrasound: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy*. 2022;54(2):185-205.
3. Teoh AYB. Outcomes and limitations in EUS-guided gallbladder drainage. *Endosc Ultrasound*. 2019;8(Suppl 1):S40-S3.

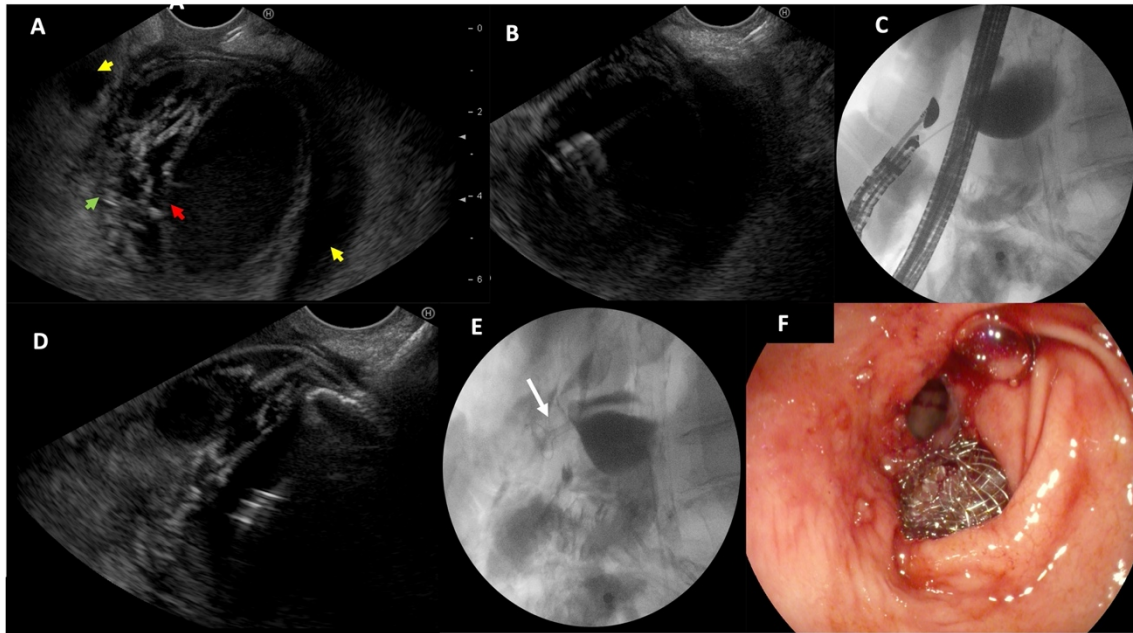


Figure 1. EUS-guided gallbladder drainage of perforated cholecystitis. A. Endosonographic vision of acute perforated cholecystitis type II according to the Niemier classification. Note the distended gallbladder, with the double wall sign and the "hole sign" (red arrow), with trabeculations of the adjacent fat (green arrow) and perivesicular fluid collections (yellow arrows). B and C. Endosonographic and fluoroscopic image of the gallbladder puncture with a 19-gauge needle during contrast injection. D. Endosonographic vision of deployment of the internal flange of the LAMS into the gallbladder. E and F. Fluoroscopic and endoscopic image of the cholecystogastrostomy after the release of the LAMS (white arrow). LAMS: lumen-apposing metal stent.