Endoscopic ultrasound-guided gallbladder drainage after distension with a high density solution (hyaluronic acid)

▶ **Video 1** Endoscopic ultrasound-guided gallbladder drainage with a lumen-apposing metal stent after the infusion of hyaluronic acid through a percutaneous catheter.

▶ **Fig. 1** Endoscopic ultrasound image showing a 3 x 2-cm perivesicular abscess.

▶ **Fig. 2** Fluoroscopic images showing: **a** the gallbladder distended with saline and contrast instilled through the percutaneous catheter, and the passage of contrast into the duodenum via the patent cystic duct; **b** the gallbladder distended with hyaluronic acid through the percutaneous catheter.

A 95-year-old woman presented to the emergency department with clinical deterioration and vomiting. An abdominal computed tomography scan showed acute cholecystitis. She was not a candidate for surgery, therefore a percutaneous cholecystostomy was performed. In order to internalize drainage, 3 days

later, the decision was made to convert the percutaneous cholecystostomy to internal transmural gallbladder drainage using a lumen-apposing metal stent (LAMS) (▶ **Video 1**). The gallbladder was initially difficult to visualize owing to the presence of a 3 x 2-cm perivesicular abscess (▶ **Fig. 1**).

After the abscess had been completely emptied with a 19-gauge needle, a contracted gallbladder was identified. Saline and contrast were used to distend the gallbladder through the percutaneous catheter; however, the contrast quickly left the gallbladder through the cystic duct and the small perforation it contained. It was therefore not possible to distend the gallbladder enough to place a LAMS safely (▶ **Fig. 2 a**). A 2 % hyaluronic acid solution was then infused through the percutaneous catheter (▶ **Fig. 2 b**), allowing the gallbladder to distend sufficiently to place a 10 x 10-mm electrocautery-enhanced LAMS (Hot Axios; Boston Scientific, Marlborough, Massachusetts, USA). Finally, a 7-Fr double-pigtail stent was placed through the LAMS. The next day, the percutaneous catheter was removed. The patient improved clinically and was discharged several days later.

Endoscopic ultrasound-guided gallbladder drainage (EUS-GBD) is an effective and safe technique for the treatment of acute cholecystitis in high risk patients [1]. In patients with previous percutaneous cholecystostomy, it is possible to convert the percutaneous drainage to internal transmural drainage using EUS guidance [2]. The percutaneous catheter allows the infusion of contrast to distend the gallbladder and achieve a suitable target. If, however, the cystic duct is patent, the contrast may quickly empty

from the gallbladder, preventing adequate distension. In this scenario, the infusion of a viscous solution, in this case hyaluronic acid, can enable distension of the gallbladder by slowing the emptying through the cystic duct. EUS-guided injection of viscous solutions for gallbladder distension may be a helpful technique for EUS-guided gallbladder drainage in such challenging cases.

Endoscopy_UCTN_Code_TTT_1AS_2AG

Competing interests

Drs. Aparicio and Berzin are consultants for Boston Scientific. The remaining authors declare that they have no conflict of interest.

The authors

Lucía Medina-Prado¹, Carolina Mangas-Sanjuan¹, Belén Martínez-Moreno¹, Juan Martínez-Sempere¹, Tyler M. Berzin², José Ramón Aparicio¹

¹ Endoscopy Unit, Department of Gastroenterology, Hospital General

Universitario de Alicante, ISABIAL, Alicante, Spain

² Division of Gastroenterology, Center for Advanced Endoscopy, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA

Corresponding author

José Ramón Aparicio, MD

Unidad de Endoscopia Digestiva, Servicio de Medicina Digestiva, ISABIAL, Hospital General Universitario de Alicante, C/ Pintor Baeza 12, 03010 Alicante, Spain
japariciot@gmail.com

References

- [1] Teoh AYB, Perez-Miranda M, Kunda R et al. Outcomes of an international multicenter registry on EUS-guided gallbladder drainage in patients at high risk for cholecystectomy. *Endosc Int Open* 2019; 7: E964–E973
- [2] Minaga K, Yamashita Y, Ogura T et al. Clinical efficacy and safety of endoscopic ultrasound-guided gallbladder drainage replacement of percutaneous drainage: A multicenter retrospective study. *Dig Endosc* 2019; 31: 180–187

Bibliography

Endoscopy 2020; 52: E400–E401

DOI 10.1055/a-1149-1153

ISSN 0013-726X

published online 17.4.2020

© 2020. Thieme. All rights reserved.

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>

Endoscopy E-Videos is a free access online section, reporting on interesting cases and new

techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at

<https://mc.manuscriptcentral.com/e-videos>