Endoscopic management of a perforated gallbladder

► **Fig. 1** Computed tomography showed a distended gallbladder with a large stone.

► **Fig. 2** Endoscopic ultrasound showed free fluid around the gallbladder, consistent with a perforated gallbladder.

► **Fig. 3** Endoscopic image showing a lumen-apposing metal stent, which was placed in a transduodenal approach into the gallbladder at a site of intact wall.

► **Video 1** Endoscopic management of a perforated gallbladder.

► **Fig. 4** Computed tomography scan after the procedure confirmed a perforated gallbladder.

► **Fig. 5** Computed tomography scan 8 weeks after the procedure showing resolution of a perforated gallbladder.

An 88-year-old woman with obesity (body mass index 40 kg/m²), diabetes, and heart failure presented with acute cholecystitis. Computed tomography (CT) showed a distended gallbladder with a large stone (► **Fig. 1**). She was started on intravenous fluids and antibiotics. After 5 hours into her admission, she began to become lethargic and had increasing tachycardia. The patient was deemed a nonsurgical candidate owing to her comorbidities and age. Given the recent evidence [1], the patient was referred for endoscopic ultrasound (EUS)-

guided drainage after multidisciplinary discussion.

On EUS, free fluid was noted around the gallbladder, which was consistent with a perforated gallbladder (► **Fig. 2**, ► **Video 1**) and explained the clinical deterioration. The decision was made to drain the gallbladder where the gallbladder wall was intact. A 10×10 mm lumen-apposing metal stent (LAMS) was placed into the gallbladder through a site of intact wall in a transduodenal approach (► **Fig. 3**). Repeat CT scan was performed after the procedure given the suspicion of

a perforated gallbladder, and confirmed the diagnosis (► Fig. 4). The LAMS was positioned away from the perforation on CT and was in place in the gallbladder. The patient was discharged 7 days later with resolution of symptoms and normalization of laboratory values.

CT scan at 8 weeks showed resolution of the gallbladder perforation, with the LAMS in place (► Fig. 5). Endoscopy was performed, and the stent and gallstone were removed. Contrast was injected into the gallbladder and showed no further filling defects in the entire biliary system. On 4-week follow-up the patient was doing well without any symptoms.

This case demonstrates that EUS-guided drainage can be effective in patients with acute cholecystitis who are unsuitable for surgery, even when a perforated gallbladder is suspected. It is important to place the LAMS at a site of intact gallbladder wall.

Endoscopy_UCTN_Code_CCL_1AF_2AF_3AB

Competing interests

Arvind J. Trindade is a consultant for Olympus America and Pentax Medical, and has received research support from Ninepoint Medical. Petros C. Benias is a consultant for Olympus America, Pentax Medical, Creo Medical, Apollo Overstitch, and FujiFilm. The remaining authors declare that they have no conflict of interest.

The authors

Arvind J. Trindade¹, Mohammed Alshelleh¹, Nichol Martinez¹, Anam Rizvi¹, Petros C. Benias¹, Stephen Litvak²

- 1 Division of Gastroenterology, Long Island Jewish Medical Center, Zucker School of Medicine at Hofstra/Northwell, Northwell Health System, New Hyde Park, New York, United States
- 2 Department of Surgery, Long Island Jewish Medical Center, Zucker School of Medicine at Hofstra/Northwell, Northwell Health System, New Hyde Park, New York, United States

Corresponding author

Arvind J. Trindade, MD

Division of Gastroenterology, Long Island Jewish Medical Center, Zucker School of Medicine at Hofstra/Northwell, Northwell Health System, 270-05 76th Avenue, New Hyde Park, NY 11040, United States
arvind.trindade@gmail.com

Reference

- [1] Teoh AYB, Kitano M, Itoi T et al. Endosonography-guided gallbladder drainage versus percutaneous cholecystostomy in very high-risk surgical patients with acute cholecystitis: an international randomised multicentre controlled superiority trial (DRAC 1). *Gut* 2020; 69: 1085–1091

Bibliography

Endoscopy 2022; 54: E396–E397

DOI 10.1055/a-1554-4660

ISSN 0013-726X

published online 27.8.2021

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

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