

Endoscopic management of food impaction following endoscopic ultrasound-guided gallbladder drainage using lumen-apposing metal stent

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► **Fig. 1** Lumen-apposing metal stent placement (red arrow) for transanal gallbladder drainage.



► **Fig. 2** Computed tomography image of food impaction within the gallbladder (red arrow).



► **Fig. 3** Endoscopic removal of food content from the gallbladder using the EndoRotor system (Micro-Tech Endoscopy, Ann Arbor, Michigan, USA).

A 61-year-old man was referred to our center for severe acute cholecystitis. Given his serious comorbidities (previous dissection of an aortic aneurysm with residual disease awaiting surgical re-intervention; stage 3b chronic kidney disease; alcohol-related liver disease), the patient underwent transgastric endoscopic ultrasound-guided gallbladder drainage (EUS-GBD) using a 10 × 10 mm lumen-apposing metal stent (LAMS) (► **Fig. 1**). In the following months the patient experienced two episodes of food impaction of LAMS, which were treated endoscopically with placement of two double-pigtail plastic stents coaxially through the LAMS. Then, 3 months after the procedure, the patient was admitted for a third recurrence of acute cholecystitis. Computed tomography revealed a distended gallbladder, 19 cm in the long axis and completely occupied by food (► **Fig. 2**). After a multidisciplinary evaluation, surgery was again excluded, and an endoscopic attempt was performed.

The double-pigtail plastic stents and the obstructed LAMS were removed to gain access to the gallbladder, which was filled with food residue. The EndoRotor system (Micro-Tech Endoscopy, Ann Arbor, Michigan, USA) was used to simultaneously fragment and aspirate the impacted food (► **Fig. 3**), resulting in removal of at least 600 mL of fragmented material (► **Fig. 4**). The procedure was completed using polypectomy snares and retrieval nets (► **Fig. 5**). Two double-pigtail plastic stents were placed through the fistulous tract (► **Video 1**). No immediate adverse events occurred, and after 3 months' follow-up there was no recurrence of acute cholecystitis. EUS-GBD using LAMS is an effective treatment option for acute cholecystitis in fragile patients [1]. However, food impaction can lead to recurrence of acute



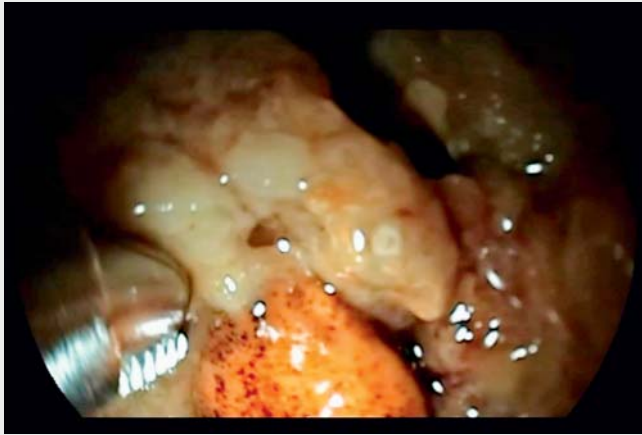
► **Fig. 4** Material removed using the EndoRotor system (Micro-Tech Endoscopy, Ann Arbor, Michigan, USA).



► **Fig. 5** Endoscopic removal of food content from the gallbladder with a retrieval net.

cholecystitis and its management can be challenging [2]. The ability of EndoRotor to fragment and collect solid and semi-solid material may therefore be an effective option beyond its use in gastrointestinal neoplastic lesion resection and necrosectomy of walled-off pancreatic necrosis [3–5].

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Video 1 Endoscopic management using the EndoRotor system (Micro-Tech Endoscopy, Ann Arbor, Michigan, USA) for cholelithic food impaction following endoscopic ultrasound-guided gallbladder drainage.

Competing interests

C. Binda is a lecturer for Steris, Fujifilm, Q3 Medical and Boston Scientific. C. Coluccio is a lecturer for Steris. C. Fabbri is a lecturer for Boston Scientific, Q3 Medical and Steris. L. Da Rio, S. Fabbri, C. Petraroli, and C. Jung declare that they have no conflict of interests.

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References

- [1] Rana S. Endoscopic ultrasound-guided gallbladder drainage: a technical review. *Ann Gastroenterol* 2021; 34: 142–148
- [2] Kamata K, Takenaka M, Kitano M et al. Endoscopic ultrasound-guided gallbladder drainage for acute cholecystitis: long-term outcomes after removal of a self-expandable metal stent. *World J Gastroenterol* 2017; 23: 661
- [3] Kaul V, Diehl D, Enslin S et al. Safety and efficacy of a novel powered endoscopic debridement tissue resection device for management of difficult colon and foregut lesions: first multicenter U.S. experience. *Gastrointest Endosc* 2021; 93: 640–646
- [4] van der Wiel S, May A, Poley J et al. Preliminary report on the safety and utility of a novel automated mechanical endoscopic tissue resection tool for endoscopic necrosectomy: a case series. *Endosc Int Open* 2020; 08: E274–E280
- [5] Rizzatti G, Rimbasi M, Impagnatiello M et al. Endorotor-based endoscopic necrosectomy as a rescue or primary treatment of complicated walled-off pancreatic necrosis. A case series. *J Gastrointest Liver Dis* 2020; 29: 681–684

Bibliography

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