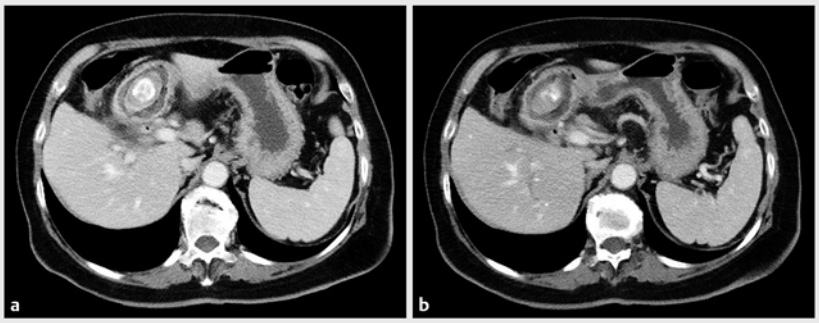
Thieme

Laser lithotripsy resolution for Bouveret syndrome

A 75-year-old woman was admitted with epigastric pain, nausea, and vomiting, but without any other symptoms. Laboratory testing and physical examination were normal. Her abdominal computed tomography (CT) scan on admission identified a cholecystoenteric fistula (duodenum to distal antrum) with a 4-cm stone in the duodenum, all of which was compatible with Bouveret syndrome (▶ **Fig. 1**) We performed a gastroscopy, which identified pyloric obstruction due to a huge stone that was preventing advancement of the endoscope (▶ **Fig. 2 a**). The patient was discussed with the surgical department, following which conservative management involving endoscopic removal was chosen.

An endoscope was inserted and we identified the presence of a large stone that was nestled in the bulb and just visible in the antrum through the pylorus. After various different manipulations using a Roth net had been tried unsuccessfully, the stone was fragmented with a lithotripsy laser (Holmium probe, 27 microns) without incident (▶ **Fig. 2 b**). All of the small fragments were removed with forceps and a Roth net (▶ **Fig. 2 c**). Finally, we explored the bulb and noted ulceration on the posterior side, as well as the cholecystoduodenal fistula (▶ **Fig. 2 d**; ▶ **Video 1**). The area was washed thoroughly, and once we had confirmed that the stone had been completely removed, the procedure was finished. The patient was discharged after 3 days with no further symptoms.

Bouveret syndrome is a rare cause of intestinal obstruction that predominantly affects elderly women with multiple pathologies [1 – 3]. New endoscopic techniques are promising because they offer less risk than surgery and with great efficiency [3 – 5]. Some mechanical methods, such as mechanical lithotripsy or the novel use of endoscopic laser lithotripsy, are now being used to destroy large stones with less morbidity and good outcomes [3 – 5].



▶ **Fig. 1** Computed tomography (CT) scan images showing: **a** the stone located in the duodenum; **b** the cholecystoenteric fistula.

Endoscopy_UCTN_Code_TTT_1AR_2AH

Competing interests

None

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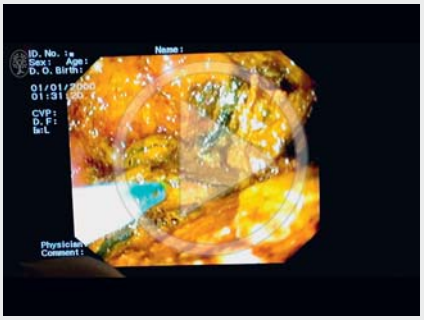
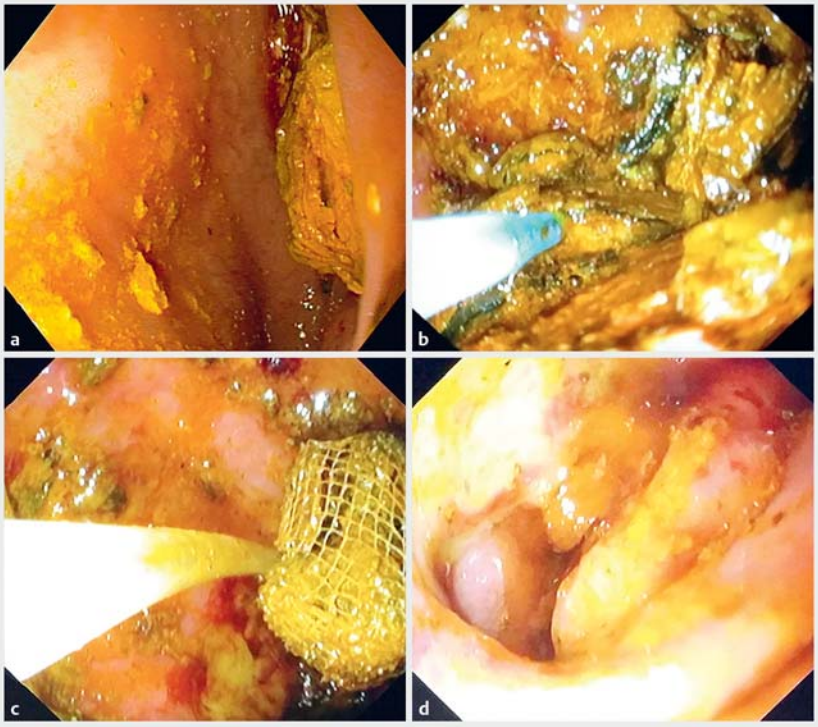
VIDEO 1



▶ Video 1: Gastroscopy identified a huge stone stuck in the antrum, which was fragmented with a lithotripsy laser (Holmium probe, 27 microns) without incident. The typical green light of the probe on the surface of the stone and the laser pulses can be seen. All of the small fragments were removed with forceps and a Roth net, although some of the fragments were still big enough that they needed to be further fragmented with a polypectomy snare. Finally, we explored the bulb and observed ulceration of the posterior duodenal mucosa, along with the cholecystoduodenal fistula.



▶ **Fig. 2** Endoscopy images showing: **a** the stone stuck in the pyloric area; **b** laser lithotripsy fragmentation (note: the typical green light on the surface of the stone); **c** stone fragments being removed in a Roth net; **d** ulceration of the duodenal mucosa and the cholecystoduodenal fistula.

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DOI http://dx.doi.org/10.1055/s-0043-102178
Endoscopy 2017; 49: E101–E102

Stuttgart · New York
ISSN 0013-726X