

## Freehand endoscopic lithotripsy for Bouveret's Syndrome

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### To the Editor,

An 81-year-old female patient was admitted to our hospital with a 6-day history of abdominal pain and multiple episodes of vomiting. Abdominal CT showed an extensive pneumobilia, a contracted gallbladder that communicated with the duodenum, and an ovoid, calcified mass in duodenal bulb. At the esophagogastroduodenoscopy, a large calculus was seen in the duodenal bulb (Fig. 1).

Due to the patient's advanced age and significant comorbidities, endoscopic treatment was advocated. The stone was captured with a polypectomy snare and pulled back through the pyloric channel into the stomach. The stone measured 3 cm in its longest dimension. Since attempts to remove the stone orally were unsuccessful, a lithotripter (*Trapezoid RX*, Boston Scientific, USA) was inserted in a freehand manner. The tip of the lithotripter was anchored with a polypectomy snare (*Skandimed*, Roedrove, Denmark) (Fig. 2). Lithotripsy was performed, and the smaller stone fragments were retrieved. Afterwards, a choledochoduodenal fistula was observed. Given the patient's advanced age, the presence of comorbidities and the absence of any signs of malignancy no further treatment was performed and the recovery of the patient was uneventful.

Duodenal obstruction by a gallstone – named after Leon Bouveret (1) – is a rare condition, representing 0,3-4% cases of gallstone ileus (2).

Although the first report on the endoscopic mechanical lithotripsy for Bouveret syndrome was published more than 20 years ago (3), it is still a technically challenging and time-consuming procedure, with an overall success rate of 25% (4). Main reasons for failure of endoscopic treatment include large size of the stone, its location and the propensity for instruments to follow the fistulous tract rather than the duodenal lumen (5).

Endoscopic lithotripsy usually requires endoscopes with a large working channel (side-viewing or double-channel). In our case, the discrepancy between the diameter of the working channel (2,8 mm) and the lithotripter (3,2 mm) was solved by the freehand introduction through the esophagus, which allowed us to finish the procedure in one act. Due to its conceptual simplicity, we believe that this approach might be useful when attempts to extract the stone with the side-viewing scope are unsuccessful.

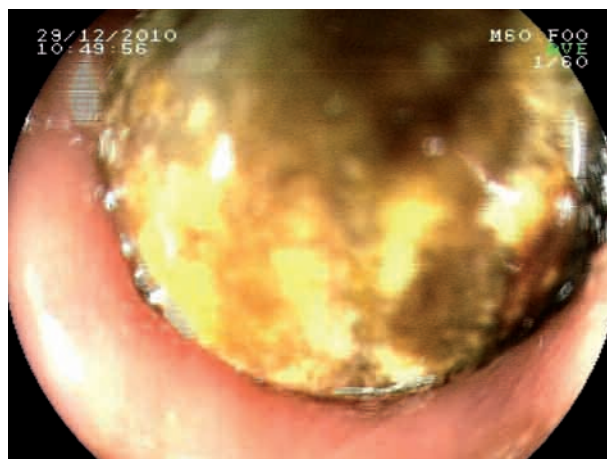


Fig. 1. — Large calculus lodged in the duodenal bulb seen at the esophagogastroduodenoscopy.



Fig. 2. — Endoscopic lithotripsy, with the lithotripter anchored with a polypectomy snare.

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