

## Proximal duodenal obstruction – Bouveret's syndrome revisited



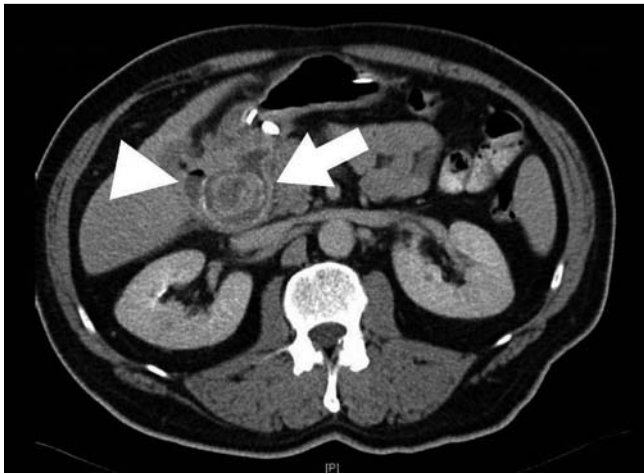
A 62-year-old man presented to our emergency department with acute epigastric pain and vomiting. He was found to have elevated markers of inflammation with a white cell count of  $16.1 \times 10^9/L$  and C-reactive protein (CRP) of 30 mg/L (normal  $<5$  mg/L), impaired renal function with a creatinine of 1.8 mg/dL, and evidence of mild cholestasis with a bilirubin of 1.3 mg/dL and  $\gamma$ -glutamyltransferase (GGT) of 78 IU/L.

Esophagogastroduodenoscopy (EGD) showed grade 3 reflux esophagitis, and 3 L of gastric fluid were aspirated. Passage of the endoscope beyond the pylorus was obstructed by a mass covered with creamy pus (● Fig. 1 a, b). After the area had been thoroughly flushed, an incarcerated gallstone was found, which was occluding the duodenal bulb with the orifice of the fistula moving relative to the gallstone (● Fig. 1 c). Endoscopic retrieval (by net, balloon, and snare) failed because of the large diameter of the stone. Computed tomography (CT) scanning revealed an air crescent within the gallbladder and a penetrating gallstone of 3 cm located within the duodenum, which was completely obliterating the lumen (● Fig. 2), but there were no signs of intra-abdominal perforation. During surgery, the penetration of the gallstone through a cholecystoduodenal fistula was confirmed (● Fig. 3). The large stone could only be removed after fragmentation (● Fig. 4). Local excision of the fistula tract was performed and the operation was completed by a cholecystectomy. The patient was discharged from hospital a few days later. On follow-up 3 months later, he had no specific complaints.

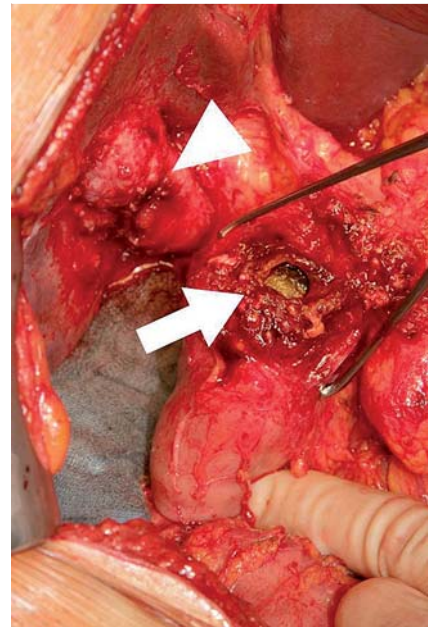
Proximal ileus caused by penetration of a large gallbladder stone is a rare clinical entity that was first described in 1896 by Bouveret [1], but has only rarely been reported since [2]. If technically feasible, endoscopic retrieval and spontaneous regression of the fistula tract have been reported [3] and this approach may be appropriate, especially in older patients or those with comorbidities, if close interdisciplinary follow-up is provided. However, surgical removal of the stone is often the more appropriate solution.

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**Competing interests:** None



**Fig. 2** Computed tomography (CT) scan showing the gallstone that had penetrated into the duodenum (arrow) and an air crescent in the gallbladder (arrowhead).



**Fig. 3** Photograph taken during surgery showing the cholecystoduodenal fistula with the cystic (arrowhead) and duodenal (arrow) sections visible. The brownish gallstone is also still in situ.



**Fig. 4** Photograph of the fragmented gallstone after removal.

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#### Bibliography

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