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 16.1×10⁹/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 γ-glutamyltransferase (GGT) of 78 IU/L.

Esophagogastroduodenoscopy (EGD) showed grade 3 reflux esophagitis, and 3L of gastric fluid were aspirated. Passage of the endoscope beyond the pylorus was obstructed by a mass covered with creamy pus (Fig. 1a, 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. 1c). 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 3cm 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.

Competing interests: None
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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.