Case Report

Pseudo-Bouveret's Syndrome

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We report a patient with gastric outlet obstruction due to gallstone, with clinical and imaging features mimicking Bouveret's syndrome. However, the obstruction was simply due to extrinsic compression by a gallstone without cholecystoduodenal fistula formation. Laparoscopic cholecystectomy cured the patient. [*Asian J Surg* 2004;27(3): 246–8]

Introduction

In 1896, Bouveret first described a syndrome in which gastric outlet obstruction was caused by a gallstone impacted in the duodenal bulb secondary to cholecystoduodenal fistula formation.[1] Treatment options include endoscopic removal of the gallstone and surgical enterotomy and removal of gallstone with or without surgical repair of the cholecystoduodenal fistula. We describe a patient with gastric outlet obstruction related to gallstone with features mimicking classical Bouveret's syndrome that was successfully treated with laparoscopic cholecystectomy alone.

Case report

A 71-year-old man presented with coffee-ground vomiting for 2 days. He was bed-bound with a history of cerebrovascular accident. He used to lie in the left lateral position because of limb contracture. Physical examination revealed a distended upper abdomen and succussion splash. Blood tests were essentially normal except for anaemia (10.9 g/dL). Plain abdominal radiograph showed a grossly distended stomach shadow together with radio-opacity in the right upper quadrant (Figure 1).

Oesophagogastroduodenoscopy showed a distended stomach with food residues and a benign-looking ulcer at the lesser curve. No intraluminal pathology causing pyloric or duodenal obstruction was identified, but there was some endoscopic evidence of extrinsic compression on the duodenum as it was quite difficult to distend the duodenum with the usual air insufflation from the endoscope. Nevertheless, we could still negotiate through the first and second part of the duodenum with the endoscope using gentle force. Barium meal examination revealed a distended stomach with partial obstruction due to extrinsic compression on the second part of the duodenum by a gallstone, but there was no contrast fill in the biliary tree (Figure 2). Ultrasonographic and computed tomographic examination confirmed the presence of a 3 × 2 cm gallbladder stone compressing the duodenum without pneumobilia (Figure 3).

Laparoscopic examination revealed a gallbladder with a gallstone compressing the second part of the duodenum. There was no sign of cholecystitis or cholecystoduodenal fistula formation. After straightforward laparoscopic cholecystectomy, the patient quickly resumed a normal diet and was discharged uneventfully. Follow-up barium meal examination 2 weeks later showed normal gastric emptying (Figure 4).

Discussion

Gallstone ileus accounts for 1% to 3% of mechanical intestinal obstruction.[2,3] Gastric outlet obstruction secondary to gallstone impaction in the duodenal bulb is even rarer and was first described by Bouveret; the syndrome was named after him.[1] An extensive review by Frattaroli et al in 1997 showed

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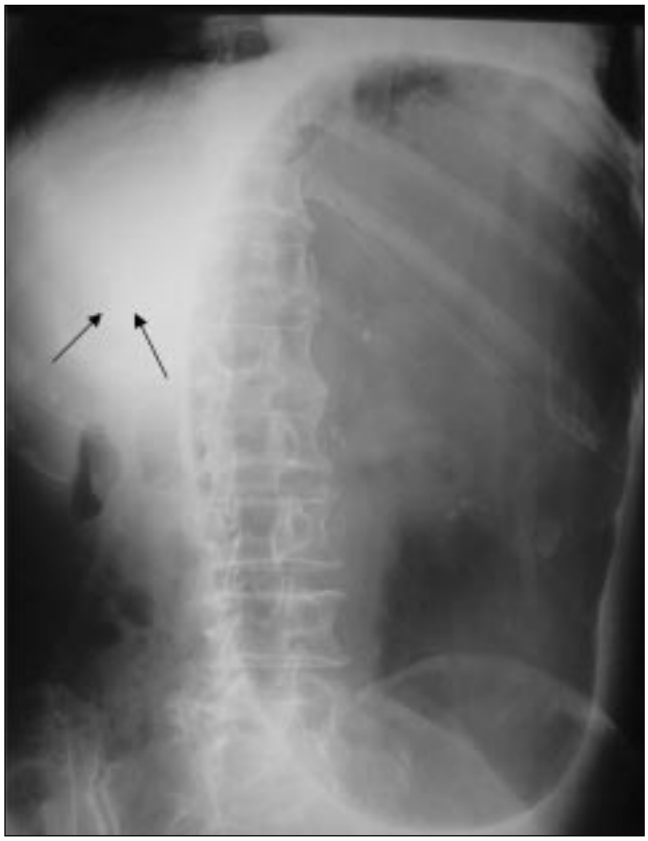

Figure 1. Plain abdominal X-ray showing a dilated gastric shadow with faint radio-opacity (arrows) in the right upper quadrant.

that approximately 240 cases of Bouveret's syndrome were reported in the international literature,[4] and about 35 further isolated cases have been reported since then. The basic pathology underlying Bouveret's syndrome is that the gallstone passes through a cholecystoduodenal fistula and impacts inside the duodenal cap, resulting in gastric outlet obstruction. Although plain abdominal X-ray and contrast meal may dem-

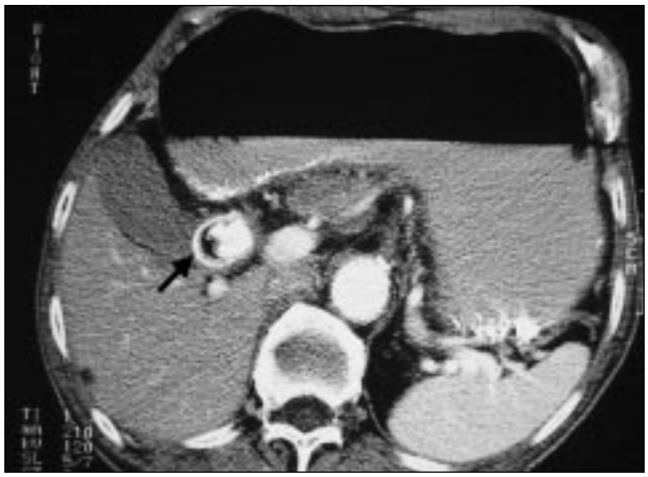

Figure 3. Computed tomography scan of the abdomen shows a distended stomach and a huge gallstone (arrow) within the gallbladder. No aerobilia was noticed.

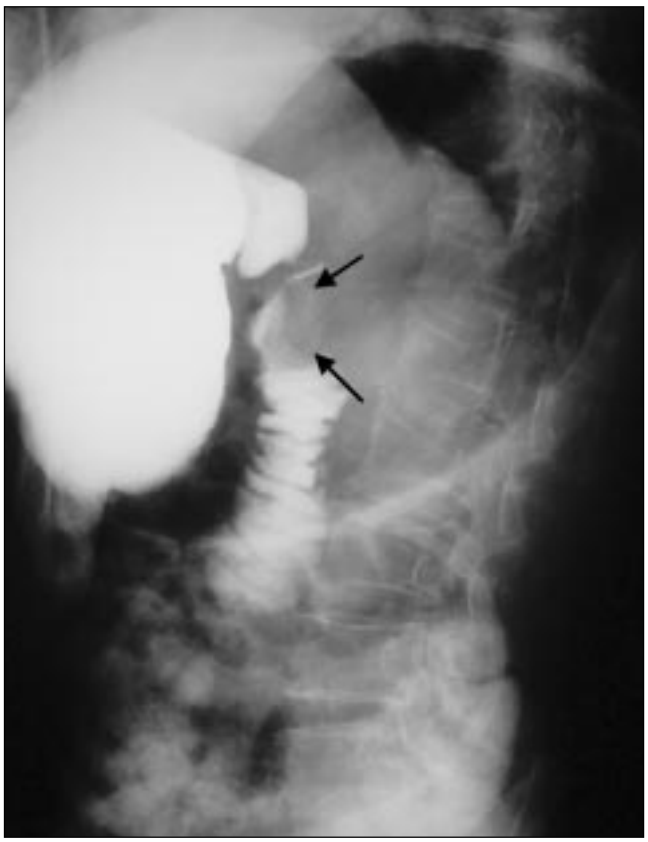

Figure 2. Barium meal examination revealed a gallstone (arrows) compressed onto the duodenum, causing gastric outlet obstruction.

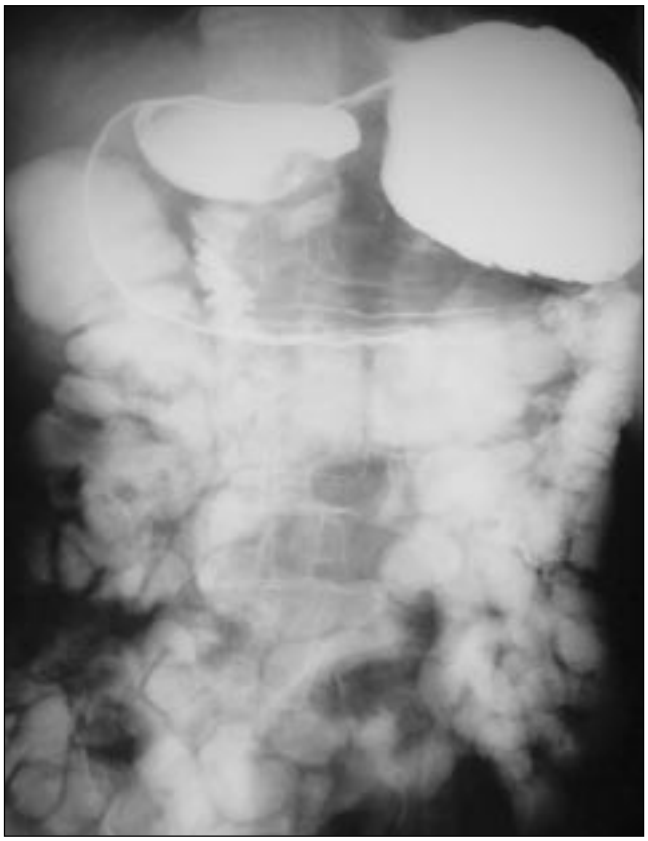

Figure 4. Postoperative barium meal examination revealed normal gastric emptying.

onstrate features of gastric outlet obstruction and cholecystoduodenal fistula (air or contrast in the biliary tree), the diagnosis of Bouveret's syndrome was difficult prior to the introduction of upper endoscopy, which is now the standard diagnostic tool.

Our patient presented with the typical symptoms and signs of gastric outlet obstruction. The features of plain abdominal and barium meal radiographs mimicked those of Bouveret's syndrome, except that there was neither pneumobilia nor contrast reflux into the biliary tree, and the long axis of the gallstone was vertical instead of horizontal.[5,6] A negative endoscopic examination refuted the diagnosis of Bouveret's syndrome and laparoscopic examination further confirmed a normal-looking gallbladder containing a gallstone but no evidence of inflammation and adhesion between the gallbladder and duodenum.

To the best of our knowledge, uncomplicated gallstone disease causing extrinsic compression of the duodenum and gastric outlet obstruction is extremely rare. In this particular case, the gastric outlet obstruction was simply due to a pressure effect on the duodenum by a gallstone inside the gallbladder. We postulate that this may be partly related to the huge size of the stone and the left lateral posture of the bedbound patient.

Treatment for Bouveret's syndrome aims to remove the gallstone in order to relieve the duodenal obstruction, and can be achieved either by formal open enterolithotomy[6–8] or endoscopic retrieval of the gallstones.[9,10] Subsequent management of the cholecystoduodenal fistula is controversial. The literature reports both repair of the fistula and cholecystectomy or leaving them untouched.[2,3,6–8] In contrast, laparoscopic cholecystectomy was all that was required to treat this unique case of "pseudo-Bouveret's syndrome".

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