

Case Report

Bouveret's syndrome: gallstone ileus causing gastric outlet obstruction

R E Lawther, T Diamond

Accepted 8 December 1999

CASE REPORT A 71-year-old lady presented with acute cholecystitis which settled with conservative treatment. She was readmitted four months later with another attack of acute cholecystitis. Three days after admission she began to vomit repeatedly. She had a positive succussion splash consistent with a diagnosis of gastric outlet obstruction. She was treated initially with nasogastric aspiration and intravenous fluids. A plain abdominal X-ray showed a large opacity in the upper abdomen to the right of the midline (Fig). A barium meal revealed a cholecystoduodenal fistula containing a large calculus which was causing partial gastric outlet obstruction. The radiological features were confirmed at laparotomy. A 6 cm gallstone was retrieved.



Fig. Plain abdominal X-ray demonstrating nasogastric tube and a large "doughnut" shaped calcified opacity on the right side of the first lumbar vertebra.

Following dissection of the fistula the duodenal defect was too large to allow primary closure and therefore a distal gastrectomy (Polya) was performed and the duodenal stump closed. A cholecystectomy was also performed. The patient made a slow recovery, due to delayed gastric emptying, but was discharged 26 days post-operatively.

DISCUSSION

Gastric outlet obstruction due to the passage of a gallstone from the gallbladder to the duodenum through a cholecystoduodenal fistula is a rare condition. Though described in two patients at autopsy by Bonnet in 1841, Bouveret made the first pre-operative diagnosis in 1896 and defined the syndrome. Since Bouveret's description only approximately 240 cases have been reported in the literature worldwide.¹

After passing through the fistula, gallstones less than 2.5 cm in diameter migrate through the bowel and may impact in the terminal ileum producing the classical gallstone ileus. Stones larger than this are more likely to impact in the duodenum.

The majority of patients with this condition are elderly females with a history of biliary disease who present with abdominal pain and non-bilious vomiting.

Plain abdominal X-ray is diagnostic in 23% of cases when pneumobilia and a calculus on the

Department of Surgery, Mater Hospital, Crumlin Road, Belfast BT14 6AB.

R E Lawther, MB, MRCS(Eng), Senior House Officer.

T Diamond, BSc, MD, FRCS, FRCS(I), Consultant Surgeon.

Correspondence to Mr Diamond.

right side of T12/L1 vertebrae are present. Oral contrast studies reveal the diagnosis in 45% of cases, but upper gastrointestinal endoscopy is 60% sensitive and can be therapeutic in 7% of patients. For high risk elderly patients Holl has advocated extracorporeal shock-wave lithotripsy with endoscopic extraction of the fragments.²

Surgery is indicated in 93% of patients. The preferred operation is a one-stage procedure with removal of the ectopic stone, closure of the fistula and cholecystectomy. At the time of surgery the rest of the bowel should be examined to exclude other stones. Alternatively a two-stage procedure can be performed with stone extraction initially, and closure of the fistula at a later date if symptoms occur. If the fistula is not closed there is a risk of cholangitis, carcinoma of the gallbladder and recurrent ileus.³ The mortality from this condition is 12%.

A diagnosis of Bouveret's syndrome should be considered in all patients with a history of gallstones and gastric outlet obstruction.

REFERENCES

1. Frattaroli F M, Reggio D, Guadalaxara A, Illomei G, Lomanto D, Pappalardo G. Bouveret's syndrome: case report and review of the literature. *Hepato-Gastroenterology* 1997; **44**: 1019-22.
2. Holl J, Sackmann M, Hoffman R, Schüssler P, Sauerbruch T, Jüngst D, Paumgartner G. Shockwave therapy of gastric outlet syndrome caused by a gallstone. *Gastroenterology* 1989; **97**: 472-4.
3. Rodriguez Romano D, Moreno Gonzalez E, Jimenez Romero C *et al.* Duodenal obstruction by gallstones (Bouveret's syndrome). presentation of a new case and literature review. *Hepato-Gastroenterology* 1997; **44**: 1351-5.