

GASTRIC OUTLET OBSTRUCTION DUE TO A GALLSTONE

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SYNOPSIS

An elderly woman was admitted with gastric outlet obstruction due to a large gallstone. She was successfully treated by surgery. A literature review of this rare condition is presented.

INTRODUCTION

In adults gastric outlet obstruction generally occurs as a complication of peptic ulcer disease or gastric carcinoma. We report a patient in whom the obstruction was due to a gallstone.

CASE REPORT

A 79 year old Chinese woman presented with a two day history of painless but incessant vomiting. She was a diabetic on oral hypoglycaemic therapy and had documented pulmonary metastatic disease following mastectomy for mammary carcinoma four years previously. A large radio-opaque gallstone was noted during investigation for upper abdominal pain four months previously. A duodenal ulcer was also diagnosed at endoscopy, and following a six week course of cimetidine her pain improved and her ulcer was found to have healed. She remained well for about two months before vomiting started.

She was moderately dehydrated on admission. There was no abdominal tenderness or visible peristalsis but a succussion splash was elicited. Abdominal X-ray showed a dilated stomach with the radio-opaque gallstone previously noted. No air was seen in the biliary tree. (Figure 1).

The patient was treated with drip and suction, intragastric antacids and intravenous cimetidine. Gastroscopy was unsuccessful because of retained gastric residue. After five days of medical therapy the volume of gastric aspirate did not diminish and she was referred for laparotomy with a clinical diagnosis of pyloric stenosis due to duodenal ulcer.

At surgery, the obstruction was found to be due to a large, black, firm pigmented gallstone (8cm x 4 cm x 3cm) lodged in the duodenal bulb. A large fistula connected the fundus of the chronically inflamed gallbladder to the duodenal cap. The common bile duct was normal. The gallstone was extracted via a duodenostomy. Cholecystectomy was performed, the fistula resected, and the duodenum repaired.

The patient had problems of diabetic control in the postoperative period but made a gradual recovery.

DISCUSSION

Intestinal obstruction due to gallstone is a rare complication of cholelithiasis occurring in about 0.5 per cent of all cases (1). Usually the biliary fistula occurs between the gallbladder and the duodenum but the gallstone unless very large is more likely to obstruct the narrower lumen of the ileum. The four diagnostic features of gallstone ileus, namely, aerobilia, radiological visualisation of the calculus, a change in the location of the calculus and intestinal obstruction, were first described by Rigler et al in 1941 (2). Since then gallstone ileus has become a more common pre-operative diagnosis. However, diagnosis is more difficult in the 1—2% of cases (3,4) in which the obstruction occurs at the level of the duodenum.

Gastric outlet obstruction in the adult usually occurs as a complication of peptic ulcer or gastric carcinoma and duodenal obstruction by a gallstone is very uncommon. Thus not a single instance was recorded out of three series of patients with pyloric obstruction totalling 432 cases (5-7). In 1948 Hertz collected 28 cases of gallstone obstruction of the

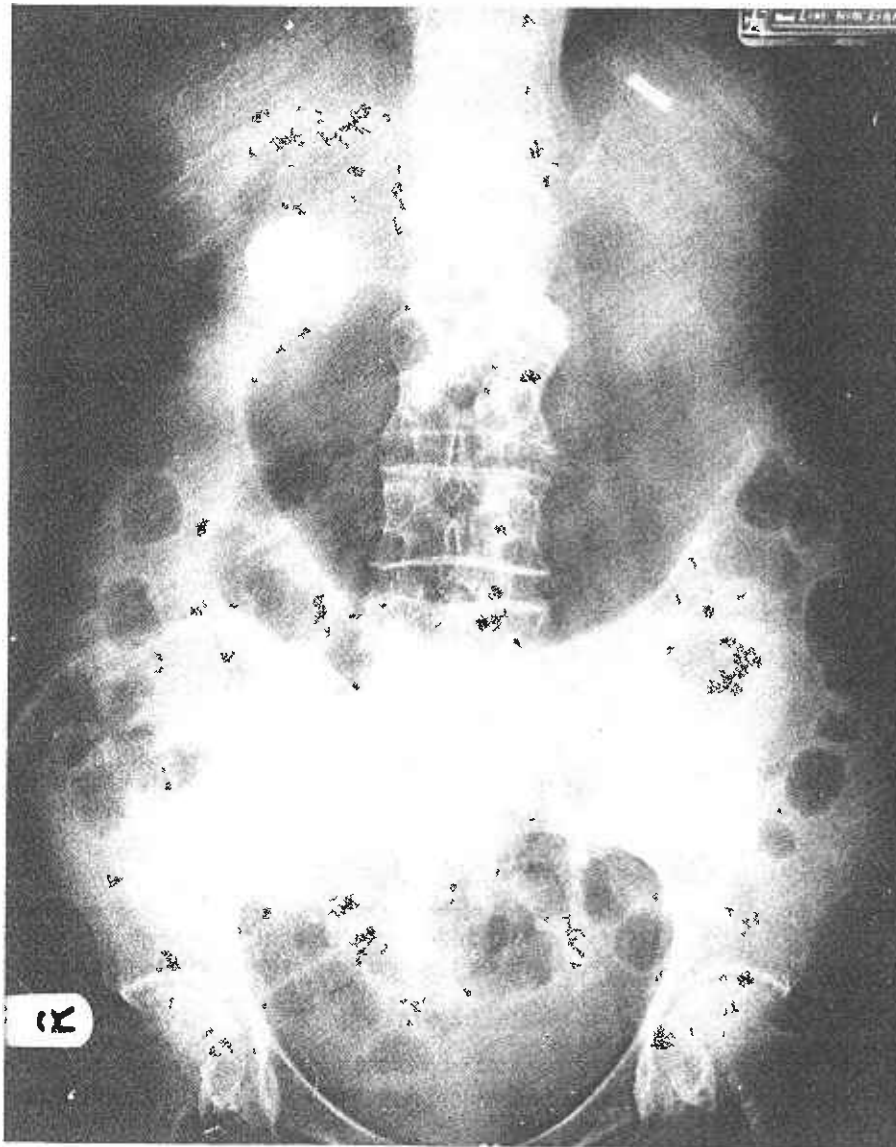


Figure 1: Plain abdominal X-ray showing a dilated stomach and calcified gallstone.

duodenum and three other cases in which the obstruction was at the level of the pylorus (8). By 1969 eighteen more cases were reported (9,10). The obstruction occurred most commonly at the level of the duodenal bulb or at the duodenojejunal flexure. Pre-operative diagnosis was made in 70% of cases.

Gallstone obstruction of the duodenum is, like gallstone obstruction of the ileum, a disease of older patients with a female preponderance. Thus, in the three series quoted (8-10) the median age was 62 and the male to female ratio 1:2. Symptoms include vomiting, usually unremitting, while upper abdominal pain occurred in four-fifths of cases. Jaundice is not a feature. The finding of radio-opaque calculi may be helpful, as may the finding of an air cholangiogram in half of the cases. A barium meal may show a complete pyloroduodenal obstruction but if the obstruction is incomplete the stone may show up as a filling defect while reflux of barium into the biliary tree would confirm the presence of a biliary fistula. Treatment is surgical and the entire gut should be examined for the presence of other calculi. Whether concurrent cholecystectomy should be performed remains debatable (3,4,9), though it has been our practice to do so, in order to prevent further symptoms.

In our patient a radio-opaque biliary calculus was present but no air cholangiogram was demonstrated. The history of duodenal ulcer suggested this as a possible cause of the gastric outlet obstruction and at endoscopy a preoperative diagnosis was not established because of excessive gastric residue. At laparotomy, the very large and firm gallstone was seen to occupy the entire lumen of the duodenal bulb and it

was not surprising that the obstruction had failed to respond to conservative treatment.

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