

A 79-year-old woman with incoercible vomiting

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CASE REPORT

A 79-year-old woman with a history of coronary heart disease, hypertension, and severe cognitive impairment related to Alzheimer disease, presented with constipation and incoercible vomiting in the previous five days. Previous medication included alprazolam, simvastatin, low-dose aspirin, bisoprolol, and omeprazole. On physical examination her blood pressure was 135/50 mmHg, and temperature 36.5°C. Abdominal palpation was not painful, no guarding, tenderness or abdominal wall hernias were noticed. Abdominal distension and augmented bowel sounds were present. A digital rectal examination was unremarkable. Laboratory investigations showed 11,200 leucocytes/mm³ with 85% neutrophils, and normal liver enzymes, amylase, electrolytes, renal function and urinalysis. Electrocardiogram did not show any changes suggestive of cardiac ischaemia. A plain abdominal X-ray showed a pelvic calcification, and was otherwise normal (figure 1). An abdominal computed tomography (CT) scan showed a pelvic calcification (figure 2), and abnormalities in the gallbladder (figure 3).

WHAT IS YOUR DIAGNOSIS?

See page 398 for the answer to this photo quiz.

Figure 1. Plain abdominal X-ray, pelvic calcification (arrow)



Figure 2. CT scan (axial view): lower abdomen, pelvic calcification (arrow)



Figure 3. CT scan (axial view): upper abdomen, presence of air in the gallbladder (arrow) and cholecystoduodenal fistula (asterisk)



DISCUSSION

Abdominal CT scan showed radiological signs of small bowel obstruction, a pelvic ectopic gallstone located in the ileum (*figure 2*), pneumobilia, and a cholecystoduodenal fistula (*figure 3*). After the diagnosis of gallstone ileus, a laparotomy with enterolithotomy without fistula repair or cholecystectomy was performed. Recovery was uneventful, and the patient was discharged six days later.

Gallstone ileus is an infrequent cause of intestinal obstruction accounting for 1 to 3% of all mechanical intestinal obstruction, and it is more frequently observed in elderly women. Gallstone ileus results from the formation of a fistula between the biliary tract and the intestine. Most fistulas occur in the duodenum; however, fistulas may also occur to the stomach, colon, and jejunum. The point of obstruction is usually in the terminal ileum because of its smaller diameter and weaker peristalsis, but it can occur throughout the gastrointestinal system. Most gallstones that enter the intestinal tract are eliminated without consequences; obstruction may occur with larger stones, usually greater than 2 to 2.5 cm.¹

Plain abdominal radiographs have been considered the fundamental tool to recognise gallstone ileus. The main radiological signs are known as the Rigler triad, composed of pneumobilia, ectopic stone and mechanical ileus, which is considered pathognomonic for this entity. However, the complete triad is observed in only a very low percentage of the patients.² In the case presented here, pneumobilia and intestinal obstruction signs were absent, and the ectopic stone was located in the pelvis, suggesting an alternative

diagnosis.³ Abdominal CT scan is considered the most important diagnostic procedure. In addition to the Rigler triad, CT allows the exact location of the ectopic stone and direct visualisation of the fistula.⁴

Proper therapy of gallstone ileus includes laparotomy and enterolithotomy. A one-stage procedure including cholecystectomy with fistula repair may be performed in healthy patients without serious inflammatory changes in the right upper quadrant. This procedure prolongs the duration of surgery and can increase morbidity and mortality. Enterolithotomy alone may be enough for elderly patients or those with comorbid conditions. In selected patients enterolithotomy may be performed laparoscopically.¹

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