

Gallstone Ileus: A Stone In The Way

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Abstract

Gallstone ileus, a rare complication of cholelithiasis, is caused by an impaction of gallstones within the gastrointestinal tract leading to mechanical intestinal obstruction. Here in, we describe a case of gallstone ileus in a 62-year-old woman successfully treated with enterolithotomy. The patient was discharged home after an uneventful post-operative period. Gallstone ileus is an uncommon complication of gallstones and a rare cause of intestinal obstruction, with often delayed presentation and non-specific symptoms. The preferred approach is enterolithotomy. Elective cholecystectomy after the acute episode is controversial.

Keywords: Bowel Obstruction; Cholelithiasis; Enterolithotomy; Gallstone Ileus.

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Introduction

Gallstone ileus is a rare complication of cholelithiasis. The increased pressure in the gallbladder lumen caused by a large stone results in localized necrosis of the wall with perforation and creation of a cholecystoenteric fistula. The passage of the stone into the intestine can cause occlusion. Gallstone ileus accounts for only 1–4% of all presentations to hospital with mechanical small bowel obstruction.¹ The aim of this report is to highlight the existence of this rare condition and its treatment options.

Case Report

A 62-year-old woman, with a history of gallstones, hypertension and poliomyelitis, came to the emergency

room due to a 3-day evolution of pain in the right hypochondrium, nausea and anorexia. On physical examination, the abdomen was painful on palpation of the right hypochondrium. She had leukocytosis of $23.60 \times 10^3/\mu\text{L}$, C-reactive protein of 16.97 mg/dL and Total Bilirubin of 2.45 mg/dL. Abdominal CT described a dilatation of the proximal jejunal loops, with air-fluid levels, with a maximum caliber of 40 mm, and a transition point of the caliber of the loops in the region of the right flank, where an endoluminal image of about 3 cm was identified. Also visualized was intrahepatic aerobilia and air in the gall bladder lumen, with an apparent break between the gall bladder and the lumen of the duodenum (**Figure 1 & 2**).

The patient underwent enterolithotomy and had a

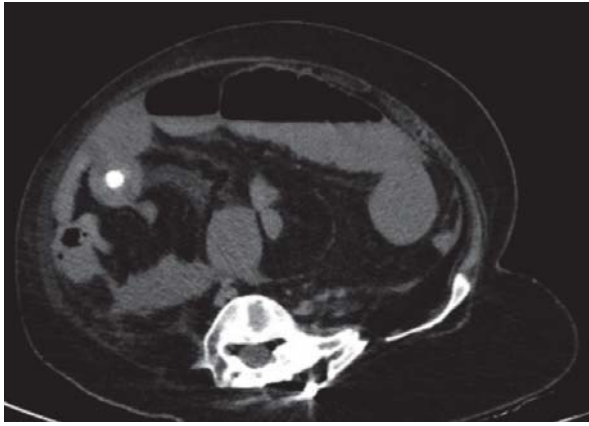


Figure 1. Axial CT scan demonstrating an endoluminal image of a stone measuring approximately 3 cm.

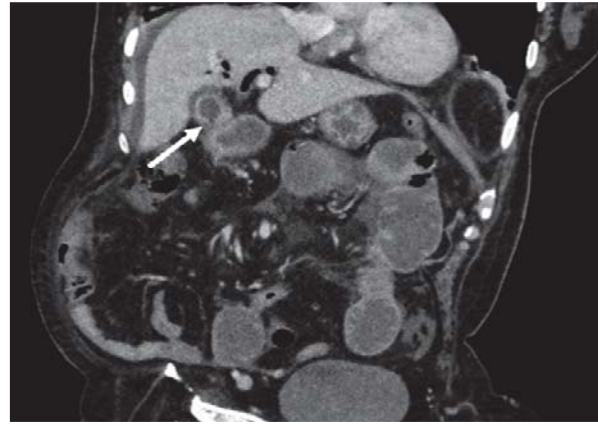


Figure 2. Coronal CT scan demonstrating an apparent break between the gallbladder and the lumen of the duodenum (white arrow).

favourable evolution and was discharged on the 4th postoperative day (**Figure 3**). In the follow-up medical consultation, one month after discharge, the patient was asymptomatic.

Discussion

Gallstone ileus mostly occurs in elderly women with associated comorbidities.² In the case presented, the patient was a woman with a history of poliomyelitis with reduced mobility and hypertension. The gallstone ileus presentation is often characterized by insidious and intermittent obstructive symptoms, which might delay diagnosis.² Our patient reported symptoms with 3 days of evolution, assuming it was a usual biliary colic. Imaging is the main diagnostic tool, allowing the recognition of pathognomonic findings and the exclusion of differential diagnoses, which include all other complications of cholelithiasis. Our patient presented



Figure 3. Stone removed by enterolithotomy.

with the pathognomonic Rigler's triad: small bowel obstruction, a gallstone outside the gallbladder and air in the bile ducts. A high level of suspicion is required in at-risk groups, and in patients presenting with a bowel obstruction and known gallstone disease. In more than half of the cases gallstones commonly cause obstruction in the ileum, the narrowest segment of the intestine, as occurred in the case presented.³ Since gallstone ileus is a rare entity, there are no randomized studies that support a preferred treatment. Non-surgical management should be reserved for old patients who are in critical condition, especially those with stones less than 2 cm.⁴ Nevertheless, the mortality rate for these patients reaches 26.5%.⁵ Enterotomy for stone extraction seems to be a safe and effective technique as reported in recent studies.⁶ Effectively our patient remains asymptomatic with the chosen approach. Performing cholecystectomy and fistula closure at the same time carries higher rates of morbidity and mortality.^{3,7} However, further studies are needed, because although enterolithotomy is the first choice, some authors advocate that one-step procedure should be kept in mind as a more advantageous technique in low-risk patients and weighing the patient's hemodynamic status, intraoperative anatomical complexity, operating time, and experience of the surgeon.^{3,7} Given the low recurrence of biliary ileus, elective cholecystectomy after the acute episode is controversial.^{6,8} The individualized treatment considering the advantages and disadvantages of each procedure and taking into account the patient and their comorbidities may be the most prudent strategy.

Conclusion

Enterolithotomy in gallstone ileus is the preferred approach allowing prompt relief of obstruction and being a safe and effective technique, as happened in the presented case.

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