



Laparoscopic Approach in the Management of Gallstone Ileus: About a Case

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Abstract

Introduction: Gallstone ileus is an uncommon cause of mechanical intestinal obstruction, resulting from the impaction of a biliary stone through a bilio-digestive fistula. It primarily affects elderly patients and is extremely rare in young adults.

Case Report: We report the case of a 40-year-old male admitted to the emergency department of Ibn Sina University Hospital in Rabat with small bowel obstruction. Abdominal CT scan revealed pneumobilia and a hyperdense lithiasis in the terminal ileum. After preoperative resuscitation, surgical exploration confirmed an impacted gallstone. Laparoscopic approach with enterolithotomy allowed its extraction. Postoperative recovery was uneventful.

Conclusion: Gallstone ileus in young patients is rare. CT imaging remains the gold standard for diagnosis. Surgical management should be minimally invasive, with simple enterolithotomy being the safest option in emergencies.

Keywords: Gallstone ileus, Bilio-digestive fistula, Enterolithotomy, Intestinal obstruction, Emergency surgery

Introduction

Biliary ileus is a rare surgical condition, accounting for 1 to 4% of all mechanical intestinal obstructions. It is caused by the obstruction of the digestive tract by a large biliary stone that has migrated through a biliodigestive fistula, most commonly a cholecysto-duodenal fistula. First described in 1654 by Erasmus, this pathology typically occurs in elderly women. Its occurrence in young individuals without a known history of biliary stones remains exceptional.

We report a case of biliary ileus observed in a 40-year-old male patient, admitted as an emergency to Ibn Sina University Hospital in Rabat, and discuss the diagnostic and therapeutic approaches through a review of the literature.

Observation

A 40-year-old patient with no significant medical history presented to the emergency department with diffuse abdominal pain, bilious vomiting, and cessation of bowel movements and gas for the past 48 hours.

On examination, the abdomen was distended, tympanic, with diffuse tenderness but no definite guarding. Vital signs were stable. Laboratory tests showed mild dehydration and leukocytosis with a white blood cell count of 12,000/mm³.

An abdominal-pelvic contrast-enhanced CT scan revealed small bowel distension with a hydro-aeric level, the presence of aerobilia, and a hyperdense lithiasic image of 3.5 cm lodged in the terminal ileum.

Resuscitation was initiated with correction of fluid and electrolyte imbalances. A surgical indication was made.

A laparoscopy using two trocars (the first, optical, placed supraumbilically, and the second, 5mm, at the left flank) allowed identification of a biliary stone lodged approximately 60 cm from the ileocecal valve. A longitudinal enterotomy on the anti-mesenteric border enabled extraction of the stone after exteriorization of the involved ileal loop through a small 4 cm median incision. The suture was performed transversely in two layers. No exploration of the gallbladder was performed,

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Figure 1: Perioperative image of the ileal loop with the lodged stone.



Figure 2: Postoperative image showing the minimally invasive abdominal approach.



Figure 3: Image of the stone responsible for the biliary ileus.

as there were no signs of inflammation.

The postoperative course was uncomplicated: return of bowel function on day 3, and discharge on day 5 without any complications.

Discussion

Biliary ileus remains a rare condition, representing 1 to 4% of mechanical obstructions. It results from the passage of a large biliary stone through a biliodigestive fistula, most commonly cholecysto-duodenal, secondary to chronic lithiasic episodes.

This condition typically affects elderly women; the occurrence in a young male, as in our case, is exceptional.

Abdominal CT is the reference imaging exam, revealing Rigler's triad: aerobilia, an ectopic lithiasic image, and small bowel obstruction.

In terms of treatment, isolated enterolithotomy remains the safest method, especially in emergency situations, as it reduces postoperative morbidity. Closure of the fistula or immediate cholecystectomy may be considered later in stable, selected patients, and outside of emergency settings.

Laparoscopy, when feasible, is currently an interesting minimally invasive alternative.

Conclusion

Biliary ileus in young individuals is an exceptional clinical entity. The diagnosis primarily relies on abdominal-pelvic CT. Isolated enterolithotomy remains the treatment of choice in emergency situations, helping to reduce mortality and complications. Long-term follow-up is necessary to detect recurrence or persistence of the biliodigestive fistula.

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