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Biliary Ileus: A Case Report and Review of the Literature

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Abstract **Case Report**

Biliary ileus is a rare mechanical obstruction caused by the entrapment of biliary macrolithiasis in a portion of the digestive tract resulting from a bilio-digestive fistula. We report the case of an 88-year-old woman was admitted (Victor JOUSSELIN General Hospital, Dreux, France) with complaints of nausea, vomiting, abdominal pain and bloating. Physical examination, blood tests and radiological investigations revealed that the patient was suffering from acute mechanical bowel obstruction due to biliary ileus. A laparotomy was indicated and performed. The main procedure was an enterotomy with gallstone extraction followed by jejunal suturing. Biliary ileus is a rare condition more often seen in older women. The diagnosis is based on computed tomography (CT). Enterolithotomy without cholecystectomy (and the repair of the fistula) is the treatment of choice.

Keywords: bilio-digestive fistula, obstruction, gallstone ileus, enterolithotomy, case report, Dreux.

INTRODUCTION

Biliary ileus is a rare mechanical obstruction. It is caused by the entrapment of biliary macro- lithiasis in a portion of the digestive tract arising from a bilio-digestive fistula.

The clinical picture was one of acute mechanical obstruction. The diagnosis was made by abdominopelvic CT scan. We report a case of jejunal biliary ileus with a review of the literature.

CLINICAL OBSERVATION

The patient was an 88-year-old woman with a pathological history of arterial hypertension, chronic renal failure, cardiac arrhythmia due to atrial fibrillation, and recurrent hepatic colic with an episode of lithiasis migration and refusal of cholecystectomy for over a year. She was admitted to the emergency department with recurrent bilious vomiting and moderate abdominal pain, with no cessation of bowel movements or gas for 48 hours. Clinical examination on admission revealed a conscious patient, haemodynamically stable and apyretic, but with temporo-spatial disorientation. Physical examination revealed a slightly distended abdomen with tenderness of the left flank, and rectal examination revealed a faecal impaction which was evacuated by enema.

Biological findings included an inflammatory syndrome, hyperleukocytosis of 25,000 cells/mm3, CRP of 19 mg/L and renal failure with a glomerular filtration rate of 30 ml/min. The blood ionogram and liver function tests were normal. An abdomino-pelvic CT scan without injection of contrast medium was performed, which revealed a rounded formation with a partially calcified endoluminal digestive wall, probably jejunal, 20 mm long with distension of the upstream coves and peri-vesicular remodelling with stones of the same density as the rounded intra-jejunal formation with air bubbles within the gallbladder (Figure 1)

Given these clinical and CT findings, the diagnosis of biliary ileus was made, and surgical treatment was indicated. The approach was a median supra-umbilical laparotomy, and exploration revealed distended jejunal intestines upstream of a stone located approximately 50 cm from Treitz's angle, upstream jejunal distension and a cholecystiduodenal fistula (Figure 2). An enterotomy is performed opposite the stone and the jejunum is sutured with an overjet. The cholecysto-duodenal fistula was respected (figure 2).

The patient was transferred to intensive care immediately after the operation and given noradrenaline. The favourable outcome meant that the patient was discharged from the intensive care unit on postoperative

day 4 and returned to convalescence on postoperative day 12.

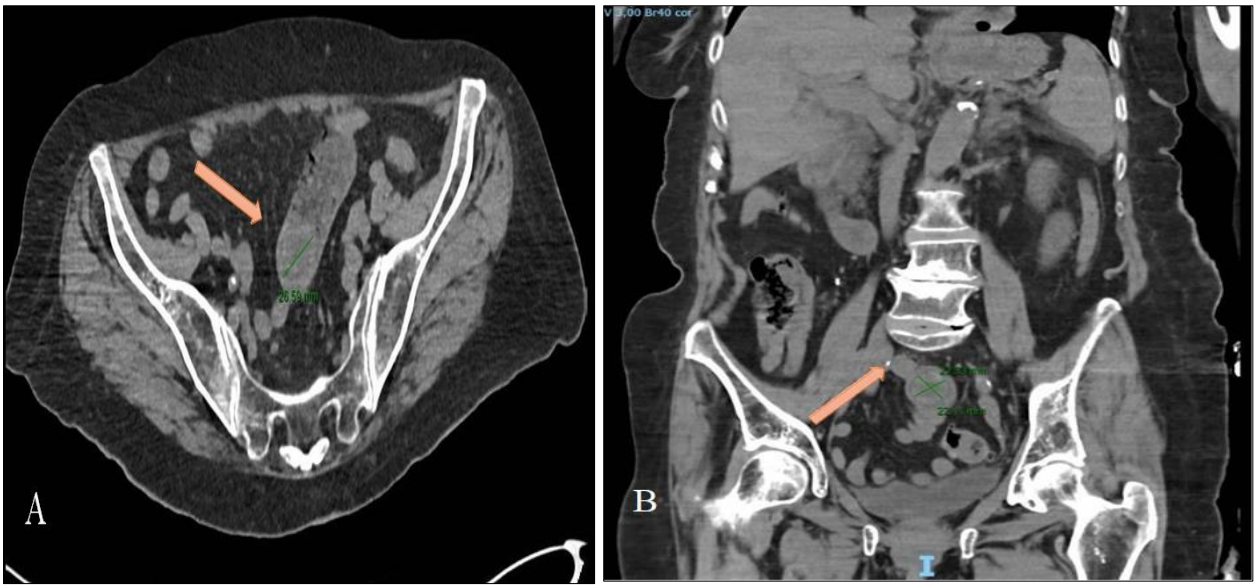

Figure 1: CT images showing the gallstone (arrows) in the small intestine. A: axial section. B: coronal section

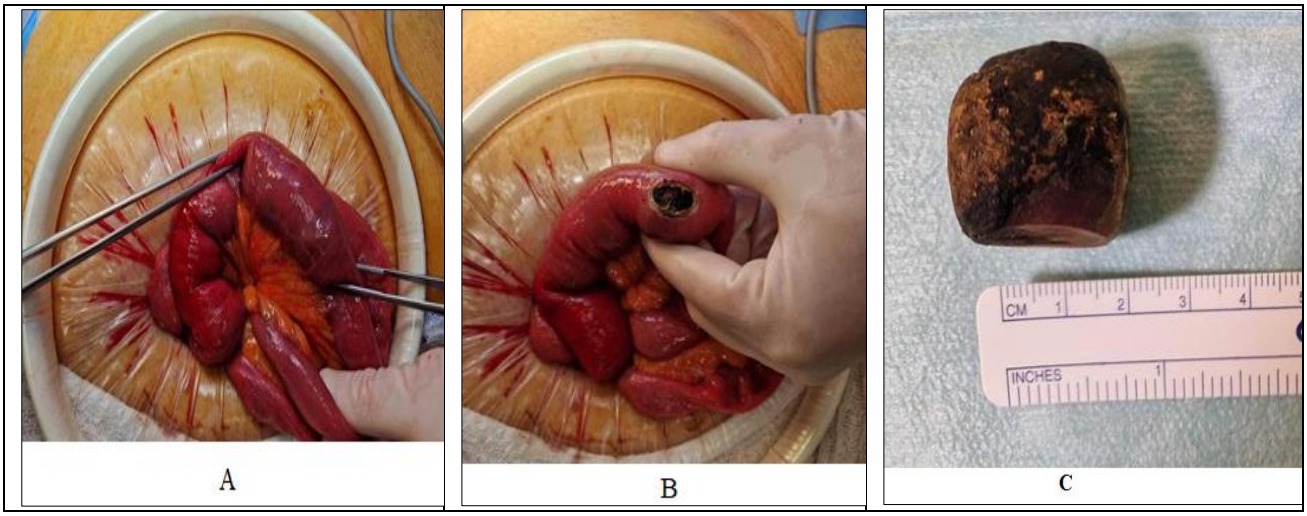

Figure 2: Intraoperative images showing:
A: level of obstruction with dilated Small bowel
B: enterotomy opposite the gallstone
C: gallstone after extraction

DISCUSSION

Biliary ileus is a rare complication of biliary lithiasis. It accounts for 1 to 4% of acute organic intestinal obstructions [3]. The incidence rises to 25% after the age of 70, with a clear predominance of women [3]. Biliary ileus occurs much more often through a cholecysto-duodenal fistula than through a cholecysto-colic, cholecysto-gastric or cholecysto-cholecal fistula. Stone impaction can occur in several parts of the digestive tract, including, in order of frequency, the ileum (60.5%), jejunum (16.1%), stomach (14.2%), colon (4.1%) and duodenum (3.5%) [4-7]. Rectal locations have been described [18]. The stone may also pass and be evacuated spontaneously in 1.3% of cases [7]. In the bowel, the clinical signs are those of a high obstruction and are non-specific.

The abdominopelvic CT scan is the reference examination for making the diagnosis by showing stones in the digestive tract, signs and topography of the occlusion and the bilio-digestive fistula [1]. The diagnosis has historically been based on Rigler's triad, which combines aerobilia, an ectopic gallstone and an occlusive syndrome. This triad is absent in 50% of cases [3-10]. Recent studies have shown the value of computed tomography in diagnosis, with sensitivity, specificity and positive predictive value of 93%, 100% and 99% respectively [3-8].

Treatment must be initiated early. Several therapeutic methods are used in this management. The management of biliary ileus has been the subject of discussion and several studies in the literature.

Extracorporeal lithotripsy is a non-invasive technique that is indicated for precarious patients who cannot tolerate surgery [2-6]. It can be combined with endoscopy in the management of biliary ileus.

Digestive endoscopy allows extraction depending on the location of the stone, most often possible in Bouveret's syndrome and colonic locations [2, 3].

Surgery is the treatment of choice in cases where the bowel is involved. In the past, enterolithotomy associated with cure of the fistula and or cholecystectomy (one stage procedure) was considered the best surgical treatment because it had the advantage of preventing recurrence and gallbladder cancer [2-9]. Today, enterolithotomy alone is considered to be the best surgical strategy because it is much less morbid than the one-stage procedure [1-9]. This enterolithotomy can be performed by laparotomy, mini-laparotomy or laparoscopy [9]. Revision at a later stage for cure of the fistula and cholecystectomy would increase morbidity and, according to most authors, would not be useful except in cases of persistent symptoms, given that the fistula dries up spontaneously in more than 50% of cases. The rate of recurrence is minimal (less than 5%) [1-3].

CONCLUSION

Biliary ileus is a rare complication of biliary lithiasis that should not be overlooked in the presence of an occlusive syndrome in elderly women with a known history of vesicular lithiasis. An abdominopelvic CT scan provides an accurate diagnosis. Treatment should be urgent and as minimally invasive as possible.

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