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Case Report

Intestinal obstruction an uncommon complication of biliary ileus: a case report

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ABSTRACT

Biliary ileus is a rare entity in our setting despite the high incidence of cholecystitis in the Mexican population. Currently, the treatment for those presenting with intestinal obstruction is surgical. Although there are many management options, it should be individualized according to the patient, symptoms, and their hemodynamic status. In this case report, we present an approach to management in a hemodynamically stable patient, who showed appropriate postoperative evolution.

Keywords: Biliary ileus, Riglers triad, Intestinal obstruction

INTRODUCTION

Biliary ileus (BI) is described as intraluminal mechanical intestinal obstruction by one or more gallstones being its most frequent location in the terminal ileum.[1,2] It is one of the complications of cholelithiasis, occurring in 0.3-0.5% of cases, and accounts for 1 to 4% of patients with intestinal obstruction.[3] It carries a high morbidity of up to 50%, with mortality ranging from 12 to 27%, primarily due to the difficulty and delay in the correct diagnosis, which is intraoperatively determined in 50% of cases.[4]

CASE REPORT

A 54-year-old male patient with a history of type 2 diabetes mellitus and hypertension under adequate treatment. Two months prior to his last hospitalization, he was diagnosed with cholelithiasis, he reported being hospitalized briefly on three different occasions in the emergency department due to biliary colic where intravenous analgesia was administered, being discharged upon improvement. His clinical presentation began 48 hours before his admission to the emergency department with intensa abdominal pain, localized to the right hypochondrium with radiation to the back, not relieved by intravenous analgesia on this ocassion. Also, he experienced nausea and vomiting, as a concomitant, he also mention constipation for the last four days. On admission to the emergency department, the patient was hemodynamically stable. Physical examination revealed a distended abdomen, decreased peristalsis, tenderness to palpation in the epigastrium and left flank, with no signs of peritoneal irritation. Laboratory findings upon admission showed leukocytosis, glucose 201 mg/dl, total bilirubin 1.9 mg/dl, mainly indirect bilirubin at 1.4 mg/dl, LDH 350, alkaline phosphatase 106, hemoglobin 16.2 g/dl, and hypokalemia 3.3 mmol/l.

Abdominal ultrasound was performed in which gallbladder and pancreas were not assessable due to the presence of dilated intestinal loops, it was only reported the presence of a scleroatrofic gallblader (Figure 1).

Abdominal CT scan was suggested for further evaluation wich revealed distension of small bowel loops due to intestinal obstruction, showing a 30×29 mm stone at the left flank (Figure 1) with secondary distension of proximal small bowel loops consistent with biliary ileus (Figure 2).

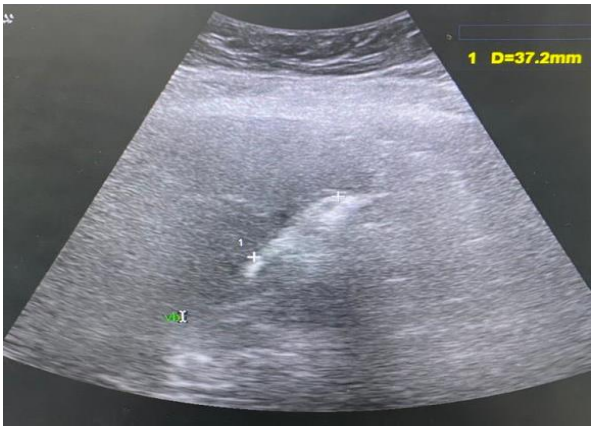

Figure 1: Scleroatrophic gallbladder.

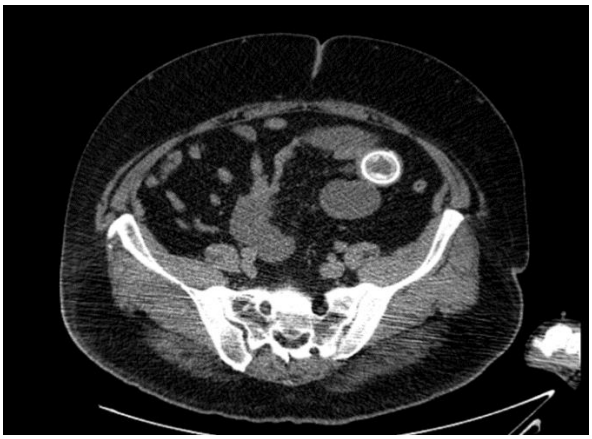

Figure 2: Presence of stone in small intestine.

Also important to mention, there was also evidence of pneumobilia, conforming the Riglers triad. Following the tomography, considering the findings and the Increased abdominal pain and distension in the patient, it was decided to perform an emergency surgery. A surgical approach was performed with exploratory laparotomy revealing abundant peritoneal fluid, distended small bowel loops without evidence of vascular compromise and a 5×4 cm calculus located 110 cm from the Treitz angle obstructing the intestinal lumen, which was partially mobile. There was more intestinal fluid within the proximal loop to the obstruction of approximately 2300 ml. Due to the patient's comorbidities and the emergent surgical scenario, it was decided to perform only a longitudinal enterotomy of 5 cm proximal to the obstruction (Figure 5) with the posterior extraction of the 5×4 cm calculus (Figure 6), and transverse enterorrhaphy with continuous sutures reinforced with Lembert suture. No drainage was left in place. Because it was an emergency procedure, combined with the patient's comorbidities only enterolithotomy was performed, which is considered the ideal option; further evaluation for possible new events and/or complications will be conducted for a second surgical intervention to perform cholecystectomy and closure of the biliary-enteric fistula.

Figure 3: Loop distention.

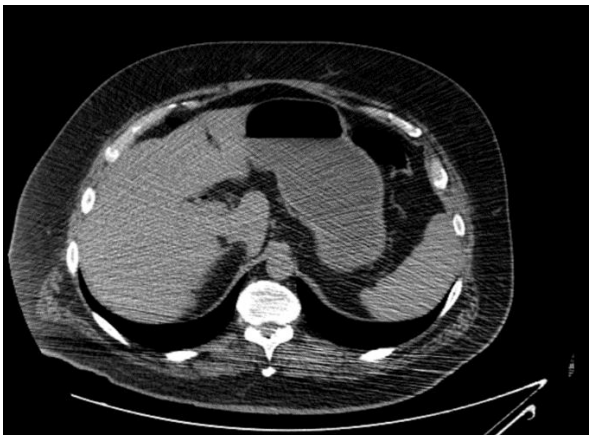

Figure 4: Pneumobilia.

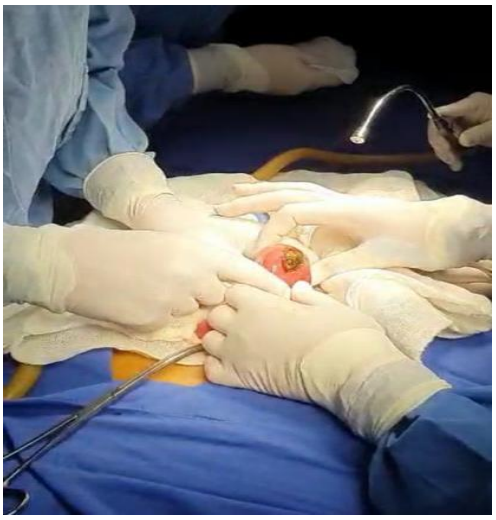

Figure 5: Enterotomy and evidence of the stone.

The patient's post-surgical clinical evolution was adequate, tolerating oral intake and having regular bowel movements. As a result, he was discharged after 4 days without complications.

Figure 6: Stone.

DISCUSSION

The gallstone ileus occurs due to the migration of a gallstone, which generally must have a diameter greater than 2.5 cm to cause obstructive effects, through a fistula that communicates the gallbladder with the intestine.[5] This is a very rare condition, here are very few reported cases of GI obstruction in the literature, even in our setting, due to its low prevalence; only 31 cases were reported in 2019.[6] As a significant clinical background, around 50% of these patients have a previous history of gallbladder disease.[6] The clinical presentation varies depending on the site of obstruction, with abdominal distension, pain, vomiting, aperistalsis, constipation, and electrolyte imbalance being more common; jaundice may also occur.[7]

Clinical data depend on the site of obstruction. Symptoms such as abdominal distension, pain, vomiting, lack of peristalsis, constipation, and electrolyte imbalance are more frequent. Our patient presented with biliary colic symptoms and constipation evolving over 4 days, with pain possibly correlating with the passage of the stone into the duodenum. The initial study for GI is abdominal X-ray in supine and standing positions is the initial study of choice. The diagnostic imaging criterion for gallstone ileus (GI) is Rigler's triad (present in 30-50% of cases): presence of a radiopaque calculus (<10%), pneumobilia or Gotta-Mentschler sign (<33%); and distension of intestinal loops.[8,9] Contrastingly, computed tomography (CT) is the preferred imaging study, being able to identify Rigler's triad in up to 80% of cases; it can better evaluate the specific site of obstruction and characterize the cholecystoenteric fistula.[10] Treatment is always surgical, with the primary goal of treating intestinal obstruction and the secondary goal of addressing the biliary-enteric fistula. The approach depends on the patient's general condition and local conditions of the area to be intervened, ranging from: enterolithotomy alone, one-stage surgery (enterolithotomy+cholecystectomy+closure of biliary-enteric fistula), or two-stage surgery (enterolithotomy+cholecystectomy and deferred closure of biliary-enteric fistula).

CONCLUSION

Biliary ileus is a rare cause of intestinal obstruction. Initially, other causes of obstruction such as adhesions, tumors, hernias, among others, should be ruled out. However, it should be suspected in older patients with a history of cholelithiasis who present with symptoms to the emergency room. This condition is associated with complications due to delayed diagnosis and late surgical resolution. Rigler's triad is only present in one-third of patients, for which CT scan is the preferred diagnostic study. The optimal surgical approach for treatment remains controversial and should be evaluated on an individual basis depending on each patient's condition. However, enterolithotomy and enterorrhaphy continue to be the most employed techniques today.

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