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Case Report

Bouveret's syndrome: an uncommon cause of intestinal obstruction

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ABSTRACT

Bouveret's syndrome is an uncommon cause of small bowel obstruction; it is a rare complication of chronic calculous cholecystitis leading to cholecystoenteric fistula, where gallstones pass through to the gastrointestinal tract leading to mechanical bowel obstruction. To perform a literature review of the medical-surgical management of Bouvaret's syndrome. 61-year-old female, attended general surgery consultation with data of intestinal occlusion, with tomographic findings of biliary calculus in terminal ileum performing exploratory laparatomy with enterotomy with calculus extraction. Bouvaret's syndrome is diagnosed by clinical and radiological studies. Surgical management is necessary due to the list of complications if left untreated.

Keywords: Biliary ileus, Mechanical obstruction, Acute cholecystitis, Intestinal obstruction

INTRODUCTION

Biliary ileus is a rare complication of cholelithiasis and one of the rarest forms of mechanical bowel obstruction. However, it is a more common cause of non-strangulating mechanical small bowel obstruction, occurring in 1% to 4% of all patients and up to 25% in the elderly.[1] Diagnosis is often delayed because symptoms may be intermittent and investigations cannot determine the cause of the obstruction. Therefore, intestinal obstruction due to gallstones is still associated with relatively high morbidity and mortality.[2,3]

CASE REPORT

61-year-old female with a history of diabetes, systemic arterial hypertension, denied allergies, surgical cesarean section and hysterectomy. She initially reports having started in January 2024 with the presence of colicky abdominal pain at mesogastric level of 15 days of evolution of mild intensity associated with abdominal distention, nausea, vomiting of gastrobiliary content accompanied by abdominal distention, denying acholia, choluria, fever and jaundice. During the physical examination, anicteric sclerae, pink conjunctivae, soft abdomen, depreciable, distended, painful on manipulation predominantly in the mesogastrium, decreased peristalsis, no data of acute abdomen, rectal examination without alterations with laboratory studies with alteration in blood biometry with leukocytosis, liver function tests altered with cholestatic pattern, normal serum electrolytes. It was decided to perform a simple and contrasted CT scan (Figure 1).

The patient was admitted to the operating room where cholecystectomy was performed with correction of the fistula with endograft+enterotomy with removal of the biliary calculus (Figure 2). After the procedure the patient evolved favorably and was discharged on the fifth postoperative day for control by the outpatient clinic.

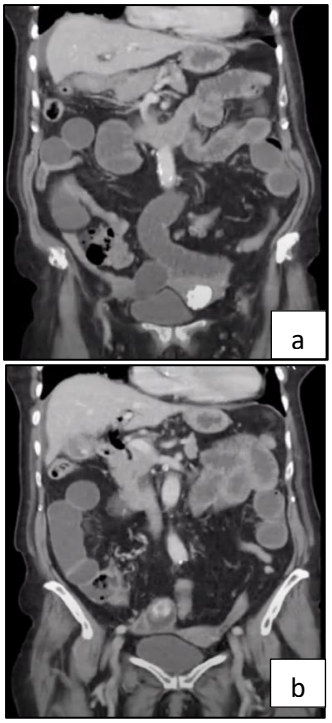

Figure 1 (a and b): Simple CT and abdomino-pelvic contrasted study. Gallbladder with 7 mm thickened wall with hyperdense images in its interior (onion layers) with intra and extra hepatic pneumobilia with dilatation of the biliary tract with dilatation of intestinal loops with a 27 mm gallbladder in terminal ileum.

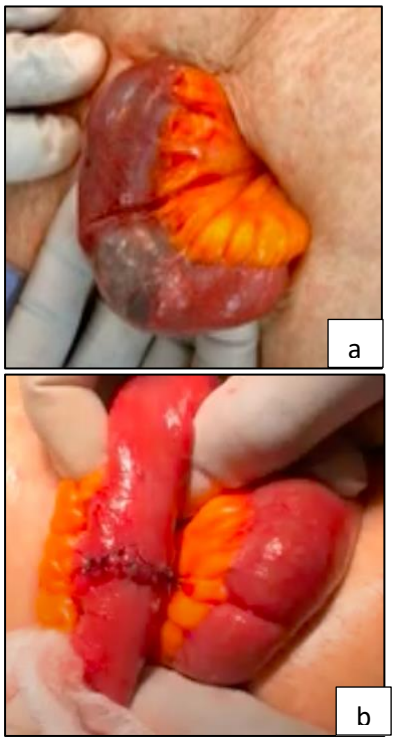

Figure 2 (a and b): Intestinal obstruction with presence of biliary litho at 7 cm from the ileocecal valve+end terminal enterotomy.

DISCUSSION

Biliary ileus occurs in 0.3% to 0.5% of all patients with gallstones. It is one of the rarest causes of biliary ileus, occurring in less than 0.1% of all cases of mechanical obstruction and in 1% to 4% of non-strangulating mechanical obstructions of the small bowel,[1,4] It was first described in 1654 by Dr. Erasmus Bartholin and is thought to be caused by gallstones entering the gastrointestinal tract after passing through a biliary-enteric fistula. Intestinal obstruction due to gallstones is more common in women (the ratio of women to men is 3.5 to 1) and in elderly patients, especially those over 60 years of age.[5]

Extrusion of gallstones during laparoscopic cholecystectomy can also cause intra-abdominal abscesses that ulcerate the intestinal wall and lead to invasion of the intestinal lumen. The location of the fistula, the size of the gallstones, and the size of the intestinal lumen determine the site of impaction. Gallstones most often affect the terminal ileum and ileocecal valve because their lumen is narrow and peristalsis may be less active.[6,7] The size of the gallstone is significant in triggering the disease. It is described that it must measure at least 2 cm in diameter (2.5 cm on average) to cause obstruction (90% of cases).[8]

Patients usually present 4 to 8 days after symptom onset. Signs and symptoms are usually nonspecific, and include intermittent cramping abdominal pain, variable abdominal distention, nausea, vomiting, and constipation intermittently as the stone moves through the gastrointestinal tract.[1,4] Barnard's syndrome refers to stones blocking the ileocecal valve and presents as a typical intestinal obstruction, sometimes accompanied by jaundice (less than 15%), manifesting as abdominal distention, pain, vomiting, absence of peristalsis, constipation. On the other hand, there is Karewsky's syndrome, which is characterized by intermittent chronic abdominal pain caused by gallstones passing through the intestines.[9] The Mordor triad is described, which consists of a history of cholelithiasis, clinical signs of cholecystitis plus data of intestinal occlusion as well as paraclinical studies which are usually unspecific, since only one third of the patients present jaundice and/or alteration of hepatic enzymes, leukocytosis and hydroelectrolytic alterations.[7]

Ultrasonography can be used to visualize fistulas, pneumobilia, impacted gallstones, and residual cholelithiasis or common bile duct stones, but the difficulty in localizing the stones and interference with intestinal gas make ultrasonography less effective. Plain abdominal radiography can also be used to diagnose Rigler's triad in partial or complete intestinal obstruction, biliary pneumatosis (Gotta-Mentschler sign) or contrast media and ectopic gallstones (less than 10% of cases) with a sensitivity of 40% to 70%.[10,11] Computed tomography (CT) is a better entity and has a sensitivity of

93%. CT should be performed when there is clinical suspicion, but the patient has negative results in the radiological examination. Findings compatible with biliary ileus include gallbladder thickening, pneumobilia, intestinal obstruction and obstructive gallstones.[6,11] Approximately 30% to 60% of patients develop pneumobilia, which is a nonspecific manifestation. If he still has problems after CT, hepatobiliary iminodiacetic acid (HIDA) scan, magnetic resonance cholangiopancreatography (ERCP) can be performed.[10] Surgery is the treatment of choice for biliary ileus; its goal is to remove the intestinal ectopic gallstone and close the fistula.[12,13]. The current surgical options are 1) simple enterolithotomy, 2) enterolithotomy, cholecystectomy and fistula closure (one-stage procedure) and 3) enterolithotomy with subsequent cholecystectomy (two-stage procedure) (3,5,13). (3,5,13). Based on the age of our patient, his comorbidities and evolution, it was decided to perform a one-stage medical-surgical procedure (previously described) since our patient did not have a high surgical risk. During the follow-up, the patient did not present symptoms suggestive of fistulas with an adequate post-surgical evolution.

CONCLUSION

Bouvaret's syndrome due to its low incidence there is still no guide or consensus for the medical treatment to follow, although surgical treatment is the standard, there are different options that will be directed to the surgeon's decision and the patient's comorbidities, reserving the endoscopic medical treatment for those patients with high surgical risk.

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