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Case Report

Gallstone ileus: the importance of individualized management

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ABSTRACT

Gallstone ileus represents a complication of cholelithiasis, which in the literature has been reported as a rare cause of mechanical intestinal obstruction, however, the reported incidence is not so low, especially after 65 years of age. The formation of a bilioenteric fistula allows the passage of a large gallstone into the intestine, usually impacting the distal intestine. It is associated with a mortality that ranges between 12 and 27%. Treatment is surgical, although there is no consensus on which of the surgical techniques is the one of choice. We report the case of an 87-year-old male patient who was admitted to the emergency department with intestinal obstruction. He was diagnosed with gallstone ileus and was treated surgically with exploratory laparotomy, enterotomy with stone extraction, and primary closure. The evolution was favorable and without complications.

Keywords: Cholelithiasis, Gallstone ileus, Bowel obstruction, Cholecystoduodenal fistula

INTRODUCTION

Since its first description in 1654 by Thomas Bartolin, gallstone ileus (GI) has been a recurrently reported surgical pathology.[1] Its incidence indicates that it is not so infrequent, the etiology being 25% of mechanical intestinal occlusions in patients older than 65 years and 1-3% in the general population (3.5:1 more common in women).[2] Additionally, patients with gallstones larger than 2.5 cm are at increased risk of developing GI.[3] When the GI occludes the outlet of the stomach, it is known as Bouveret syndrome, but it is more common for the occlusion to present at the level of the terminal ileum or the ileocecal valve, known as Barnard syndrome.[4,5] The clinical picture is characterized by abdominal pain accompanied by symptoms of intestinal obstruction with several days of evolution (4-8 days).[6-8] Preoperative diagnosis can be made employing plain radiography in 10-20% and by contrast tomography in 77% of cases, in which Rigler's triad (small bowel obstruction, pneumobilia, and ectopic gallstone) is evident.[2] Usually, it is diagnosed in 50% of cases during the intraoperative period,[6] it is then when the surgeon is faced with the decision to perform the only entero-lithotomy, entero-lithotomy with cholecystectomy at the same time, or entero-lithotomy with delayed cholecystectomy.

CASE REPORT

An 87-year-old male patient without comorbidities, with a surgical history of open prostatectomy and left inguinal plasty. He went to the emergency room due to intolerance to the oral route, nausea, and vomiting of gastric contents

on several occasions, of 3 days of evolution, associated with general malaise.

Upon admission, he found tension abdominal distension, increased peristalsis, and bloating on percussion.

Simple abdominal tomography shows a distended gallbladder, filled by air, with a 1 cm thickened wall, a 10 mm diameter common bile duct, a dilated stomach, a dilated small intestine with a 5 cm diameter to the proximal ileum, where a stone of approximately 2.5 cm is identified (Figure 1 A, B).

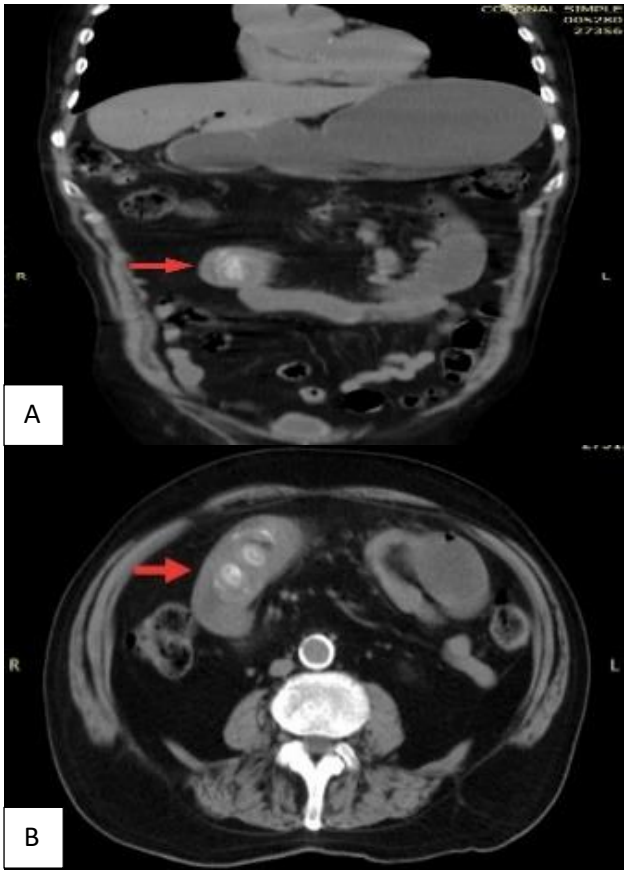

Figure 1 (A, B): Simple computed tomography with the presence of a 2.5 cm gallstone in the proximal ileum.

Laboratory tests reported leucocytosis of 18.3x103/ml, neutrophils 16.6x103/ml, hemoglobin 14.2 g/dl, hematocrit 42.3%, platelets 382x103/ml, creatinine 3.77 mg/dl, urea 176.3 mg/dl, TP 11.5 (74%), TPT 22.4.

The diagnosis of probable gallstone ileus is integrated. A nasogastric tube is placed with an immediate discharge of 300 ml of the intestinal type.

An exploratory laparotomy was performed, finding gallstone in the small intestine 50 cm from the Treitz ligament, without dilatation of the bowel loops. A longitudinal enterotomy is performed at the antimesenteric border (Figure 2), a gallstone of approximately 5×2 cm is removed (Figure 3 and 4) and primary closure is carried out (Figure 5). After the pneumatic test without leakage, closed-type drainage directed to the pelvic cavity was placed and the surgical procedure was completed after 60 minutes, with bleeding reported in 10 ml.

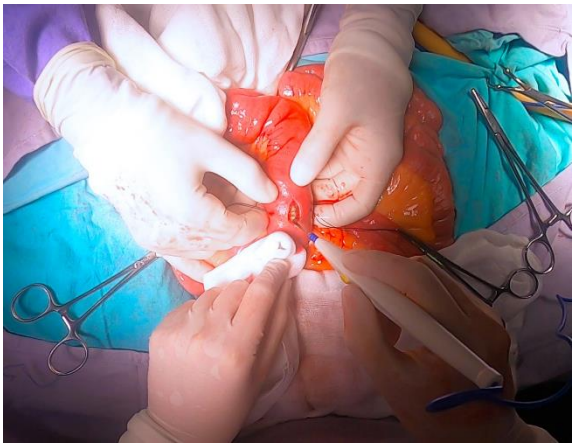

Figure 2: Enterotomy at the antimesenteric border.

Figure 3: Gallstone removal.

Figure 4: 5.5×2 cm gallstone.

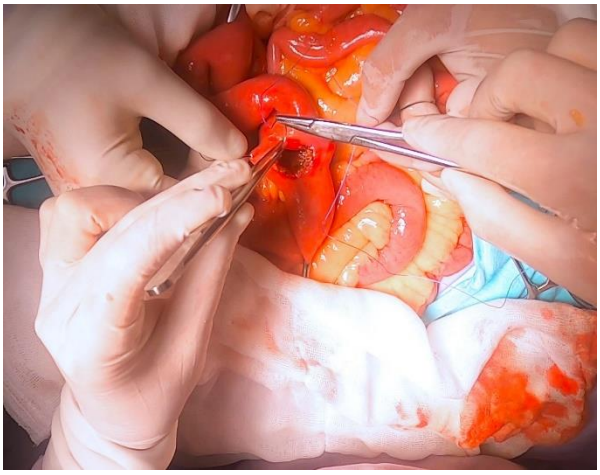

Figure 5: Primary closure with absorbable suture.

On the 5th post-operative day, it was started orally satisfactorily and it was discharged on the 7th day without complications. Outpatient follow-up is given at 5 and 9 weeks, with a favorable evolution, and the service is discharged.

DISCUSSION

Due to the fact that in our country the population over 65 years of age has increased, it is to be expected that GI occurs more frequently nowadays, sometimes associated with other diseases that make its diagnosis and treatment difficult, such as digestive tract bleeding, delirium, colon neoplasia, amyotrophic lateral sclerosis, and it should not be forgotten that, although less frequently, it occurs in young patients.[7-10] Once the challenge of diagnosis has been overcome, we are faced with the dilemma of treatment. In the present case, we opted for the open approach with the only entero-lithotomy; this approach is associated with a 4.9% mortality, although it should be taken into account that GI can recur in 5-33% of patients treated in this way. This recurrence usually occurs between the sixth week and the sixth postoperative month.[11,12]

On the other hand, entero-lithotomy with cholecystectomy in the same surgical time is justified only in low-risk patients who are adequately stabilized in the preoperative period.[13] This procedure is associated with a longer surgical time and a mortality of 7%. Its purpose is to avoid recurrence and a scheduled reoperation.[14]

Lastly, entero-lithotomy with delayed cholecystectomy is recommended in patients with a good functional reserve and who suffer from persistent biliary symptoms or who did not present spontaneous resolution of the fistula (50% of cases). The mortality reported in this procedure is 2.9%.[15]

The surgical approach is almost always by laparotomy, only 10% is attempted to be resolved by laparoscopy, and the conversion rate is as high as 53.3% of the cases.[2]

It must be taken into account that, if it is decided to perform the only entero-lithotomy and the gallbladder pathology is not definitively resolved, recurrence presents mortality of 12-20%.[16]

This is why the treatment must be individualized in each patient, taking into account age, functional reserve, and material and human resources available.

CONCLUSION

GI is an increasingly common pathology; it should be borne in mind when approaching a patient over 65 years of age with intestinal obstruction. Timely diagnosis and preoperative stabilization are crucial in the outcome. Despite attempts to establish algorithms to decide its surgical management, to date, there are none validated and there is no infallible method. The decision will always depend on the experience of the surgeon and the resources available to him.

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