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Case Report

Gallstone ileus an uncommon cause of bowel obstruction

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ABSTRACT

Gallstone ileus is caused by the impaction of one or more gallstones within the gastrointestinal tract leading to mechanical obstruction. Thomas Bartholin described the first case in 1654 during an autopsy. This manuscript describes a case of gallstone ileus in a 39-year-old woman who presented data of intestinal occlusion and hemodynamic instability, being managed with intestinal resection for a 7 cm stone and entero-entero anastomosis, achieving an adequate post-surgical evolution. It is a rare complication of cholelithiasis and is found in 2 to 3% of all cases associated with recurrent episodes of cholecystitis, it occurs predominantly in women. In elderly patients (>65 years) it accounts for 25% of all cases of small bowel obstruction and carries a fivefold increased risk of morbidity (20 to 57%) compared to other causes of small bowel obstruction.

Keywords: Gallstone Ileus, Bowel obstruction, Gastrointestinal tract

INTRODUCTION

The most common causes of mechanical obstruction of the small intestine are postoperative adhesions and hernias. Other etiologies of small bowel obstruction include diseases intrinsic to the bowel wall, such as tumors or strictures, and processes that cause intraluminal obstruction, such as intussusception, gallstones, and foreign bodies. A mechanical obstruction of the small intestine induced by gallstones is known as "gallstone ileus". Gallstone ileus is a rare complication of cholelithiasis.[1]

Generally, this pathology occurs in people over 65 years of age and is related to a history of gallstones and recurrent episodes of cholecystitis. Differential diagnosis can be difficult due to non-specific findings during physical examination, computed tomography can provide valuable information such as Rigler's triad: aerobilia, gallstones in the terminal ileum and signs of intestinal obstruction, it is important to perform a diagnostic approach opportune to establish the therapeutic to follow.

CASE REPORT

A 39-year-old woman with a history of epilepsy undergoing treatment. She went to the emergency room in a private environment due to abdominal pain, located in the epigastrium with irradiation to the right hypochondrium, trans fictive, intensity 9 of 10 progressive VAS, nausea and intolerance to the oral route with emesis on 5 occasions of gastro-intestinal content. On physical examination, she presented tachycardia, diaphoresis, analgesic position, distended abdomen, pain on palpation in the epigastrium and right hypochondrium, decreased peristalsis, with no signs of peritoneal irritation. In the paraclinical tests, only leukocytosis stands out at the expense of neutrophilia and elevation of gamma glutamyl transpeptidase.

The liver and biliary tract ultrasound reported: gallbladder with poor definition of the wall with stones inside, without evidence of free fluid in the cavity. Subsequently, he presented deterioration of vital signs and shock data, so it was decided to perform an exploratory laparotomy, finding perforation of the first

portion of the duodenum, proceeding to perform primary closure, aminergic support and advanced management of the airway were initiated, patient transferred to the ICU.

During his stay in our unit, without presenting significant improvement, an abdominopelvic CT scan was performed, finding significant dilation of the gastric chamber and intestinal loops.

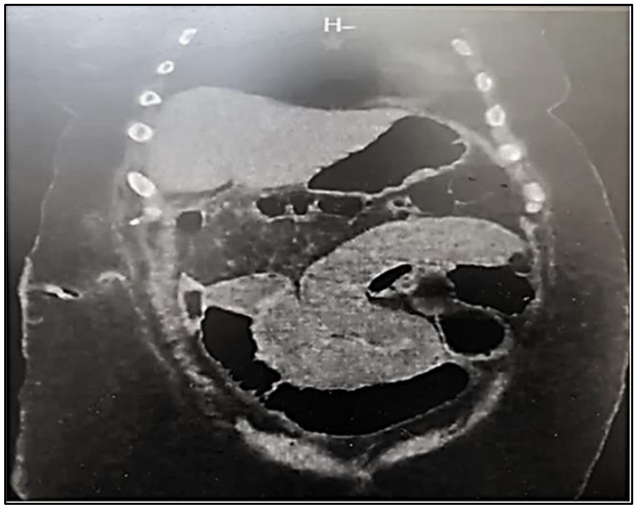

Figure 1: Simple abdominopelvic CT in coronal section showing dilatation of the gastric chamber and intestinal loops as well as a transition zone.

Surgical reintervention was decided for exploratory laparotomy, finding as findings: mechanical intestinal occlusion due to a 7 cm stone located 1.2 m from the ileocecal valve, with perforation towards the mesentery, the stone was extracted and the site of obstruction was resected and an end-to-end anastomosis was performed in two planes. The stone was oval in shape, not faceted. The rest of the intestine was examined from the ligament of Treitz to ileocecal valve without identifying other stones.

Figure 2: Exploratory laparotomy view of an impacted gallstone in the ileum segment.

Subsequently, she was hospitalized on the general surgery floor, with adequate post-surgical evolution, being discharged to her home due to improvement.

DISCUSSION

Patients with this pathology usually present nonspecific signs and symptoms, which leads to a delay in diagnosis. Symptoms of small bowel obstruction, such as nausea, vomiting, and crampy abdominal pain, predominate. There are three forms of presentation: acute, subacute or chronic (Karewsky syndrome). This clinical presentation can occur depending on the site of the obstruction and the size of the gallstone. Bowel obstruction usually occurs after impaction of a gallstone at least 2.5 cm in diameter. Clavien et al. reported the size of gallstone obstruction from 2 to 5 cm.[3-5]

Diagnosis can be challenging due to several factors: the intermittency of symptoms, the fact that signs and symptoms are nonspecific, the advanced age of the patients and their concomitant diseases.[4] In our case, we had an atypical presentation as it was a woman younger than usual, as well as the finding of a larger stone than the average reported in the literature.

An abdominal radiograph can highlight signs of Rigler's triad: pneumobilia, presence of an ectopic radiopaque gallstone, and dilated small-bowel loops. Rigler's triad is suggestive for diagnosis of GI in 40-70%. Often, the stones are not sufficiently calcified and pneumobilia can be missing if the fistula closes after the stone has migrated to the bowel. Other two radiological signs which suggest GI are different positions of the gallstone observed in a previous examination and the presence of two fluid filled loops in the right upper quadrant: the medial one corresponding to the duodenal bulb and the lateral one to the gallbladder due to the presence of air. Contrast-enhanced abdomen CT scan obtains a quickly diagnosis supporting the surgeon regarding the fistula and stone location. However, estimated 25-30% of gallstones cannot be visualized on CT scan, as they are iso-attenuating.[6]

Current surgical options are 1) simple enterolithotomy; 2) enterolithotomy, cholecystectomy, and fistula closure (single-stage procedure); and 3) enterolithotomy with cholecystectomy performed subsequently (two-stage procedure). Most conclude that enterolithotomy alone is the best option for most patients.[1]

CONCLUSION

Gallstone ileus is a rare complication of cholelithiasis, although it usually occurs in elderly women and with associated comorbidities, it should be taken into account as a diagnostic possibility when faced with duodenal perforation in young women. The diagnosis should be suspected in an older patient presenting with Mordor's triad: a history of gallstones, signs of acute cholecystitis,

and sudden onset of intestinal obstruction. Enterolithotomy alone appears to be the safest surgical intervention.

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REFERENCES

1. Harris J, Evers M. Small intestine; in Townsend C, Beauchamp RD, Evers B, Mattox K (eds): Sabiston Textbook of Surgery, CH. 49, ed 20. Philadelphia, Elsevier Saunders. 2016.
2. Vera-Mansilla C, Sanchez-Gollarte A, Matias B, Mendoza-Moreno F, Díez-Alonso M, Nisa FGM. Surgical Treatment of Gallstone Ileus: Less Is More. Visc Med. 2022;38(1):72-7.
3. Rodriguez JER, Grossi AE de LMT, Siqueira VR, de Siqueira Filho JT, Pereira MAS, da Cunha DGC. Gallstone ileus associated with cholecystogastric fistula: Case report, diagnosis and surgical treatment. Int J Surg Case Rep. 2021;86(8):0-4.
4. Aguirre-Olmedo I, del Castillo SR-A, Nuño-Guzmán CM, Briceño-Fuentes A, García-González RI, Torres-González MC et al. Gallstone ileus diagnosis and treatment: six-year experience in three academic institutions. Gastroenterol Hepatol Open Access. 2021;12(6):153-60.
5. Ploneda-Valencia CF, Gallo-Morales M, Rinchon C, Navarro-Muñiz E, Bautista-López CA, de la Cerda-Trujillo LF et al. Gallstone ileus: An overview of the literature. Rev Gastroenterol Mex. 2017;82(3):248-54.
6. Adamo V, Naddeo M, Di Natale W, Boglione L, Cavalli S. Gallstone ileus: monocentric experience looking for the adequate approach. Updates Surg. 2018;70(4):503-11.

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