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A Rare Presentation of Intestinal Obstruction: Gall Stone Ileus

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Abstract
Gallstone ileus is a mechanical intestinal obstruction due to gallstone impaction within the gastrointestinal tract.1 It is an unusual complication of cholelithiasis, occurring in fewer than 0.5 percent of patients.2 Typically as a result of the formation of cholecysto-duodenal fistula, surgical removal of the gallstone is the mainstay of treatment in order to relieve the intestinal obstruction.
Objective: *To know about this rare diagnosis so that one can keep it as a differential diagnosis for intestinal obstruction and thus manage accordingly.*
Keywords: *Intestinal obstruction, Gallstone ileus, Bouveret's syndrome, Cholecystoduodenal fistula, Bilio-enteric fistula.*

Introduction

Gallstone ileus (GI) refers to a mechanical obstruction of the gastrointestinal tract caused by impaction of one or more gallstones in the bowel lumen. In most cases, obstruction occurs in the terminal ileum (60%), followed by the proximal ileum (25%), and less frequently by the jejunum (9%), the sigmoid colon (4%) and the duodenum (2%).[3] Risk factors involved in gall stone ileus are: 1) history of cholelithiasis; 2) repeated episodes of cholecystitis; 3) female gender; 4) age >60 years; 5) comorbidity, and 6) gall stones >2.5cm in diameter.[4]The morbidity and mortality of gallstone ileus remain remarkably high, most likely due to misdiagnosis and delayed diagnosis.[5] Early diagnosis and prompt treatment can reduce the mortality rate.

Case Presentation

A 37-year-old female patient presented to the hospital with complaints of pain abdomen and vomiting from 3 days. Vitals were PR: 110/min BP-110/60 mmhg Spo2- 96% @ room air. On abdominal examination there was generalized tenderness and gross distension of the abdomen and bowel sounds were absent. Blood Investigations had TLC 18200/µl, Serum amylase 234U/L, Serum lipase 363U/L. Abdominal X-ray shows multiple air fluid levels. USG abdomen was suggestive of cholelithiasis with chronic cholecystitis. Thus, keeping this in view, suspicion of Acute Pancreatitis was kept and patient was managed conservatively. Patient was not improving with the conservative management and thus planned for CECT- Abdomen which was

suggestive of GB perforation with cholecystoduodenal fistula with Gall stone ileus. On laparotomy, copious amount of fluid was present. Calot's was frozen. There was fistula between Gall Bladder and first part of duodenum. Nearly 25cm proximal to ICJ, 2 calculi were present of size 4*3cm and 2*2cm respectively. Enterolithotomy with cholecystectomy and fistula closure (one-stage procedure) was done. Post operative period was uneventful.

Fig. 1 Fistula between GB and D1

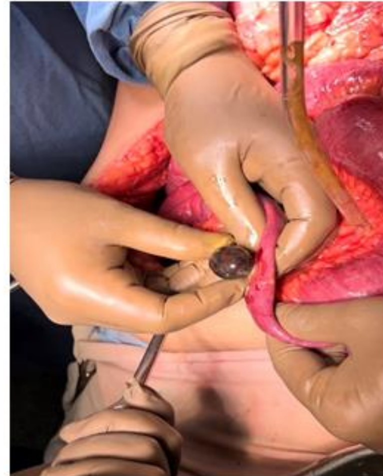

Fig. 2 Enterolithotomy done for gall stone ileus

Discussion

Gallstone ileus is more common in women, and the ratio of females to males is 3.5 to 1.[6] It occurs most frequently in the terminal ileum.[7] The formation of the fistula between the gallbladder and the lumen of the digestive tube may be related to a chronic inflammatory process, which produces less vesicular arterial flow and venous and lymphatic drainage. This situation may cause an increase of the vesicular intraluminal pressure that would favor necrosis and fistulization of the biliodigestive barrier. Cholecystoenteric fistulas occur in 0.3-0.5% of patients with cholelithiasis, and most of them are cholecystoduodenal (60%), cholecystocolonic (17%), cholecystogastric (5%) and choledochoduodenal (5%).[8] Classical findings on plain abdominal radiography include: (i) pneumobilia; (ii) intestinal obstruction; (iii) an aberrantly located gallstone; and (iv) change of location of a previously observed stone. In the past, confirming the diagnosis was difficult, but the advent of CT and magnetic resonance imaging (MRI) has made it easier to diagnose.[9] Emergency surgery is required once the diagnosis of gallstone ileus has been made. Enterotomy with stone extraction alone remains the most popular operative method.[10]

Conclusion

Gallstone ileus is a rare cause of intestinal obstruction with often-delayed presentation and non-specific symptoms. As such a high level of suspicion is required in at-risk groups and in patients presenting with a bowel obstruction and known gallstone disease. Surgical relief of obstruction is the cornerstone of treatment. Enterolithotomy remains the mainstay of operative treatment. A one-stage cholecystectomy and repair of fistula is justified only in selected patients in good general condition and adequately stabilized preoperatively.

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