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Cholecysto - Duodenal Fistula with GI Obstruction and Perforation: A Rare Case Report

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Abstract: ***The Gastrointestinal obstruction (rarely GI perforation) is a serious complication of cholelithiasis due to the formation of a fistula from the gallbladder to the subjacent duodenum. The gallstones are usually large enough to cause intestinal obstruction, rarely cause GI perforation due to erosion. The distal ileum, close to the ileocecal valve, is the most common site of obstruction in these cases, where the luminal diameter is narrowed. This condition is currently responsible for 4% of all the cases of mechanical bowel obstruction. However, when considering a 65+ age group, the rate goes up to 25%. In conclusion, Gastrointestinal obstruction is a surgical emergency that, although rare, has high morbimortality rates. Here we present the case of a patient with an acute abdomen. Exploratory laparotomy was performed with Cholecystoduodenal Fistula repair in 1st part of duodenum with cholecystectomy with primary repair of jenunal perforation. The postoperative evolution was satisfactory without complications.***

Keywords: Cholecystoduodenalfistula; Acute abdomen; Gastrointestinal obstruction, Jenunal perforation

1. Introduction

Lithiasiccholecystitis can have many types of complications, one of them being the formation of bilioenteric fistulas, which can evolve to a bowel obstruction. It is a serious and rare complication arising from a previous episode of acute cholecystitis, followed by the inflammation of the tissues that surround the gallbladder, forming adhesions between the gallbladder and the small bowel. The inflammatory tissue binds to all the surrounding tissues, creating multiples adherences onto the gallbladder and the small bowel. The gallstone gradually erodes the gallbladder and the walls of the bowel, leading to acholecystoenteric fistula. The gallstone often migrates to the intestinal lumen and causes a bowel obstruction. The most common site of the obstruction is the distal ileum, close to the ileocecal valve, due to its narrower diameter. This condition is responsible for between 1% and 4% of all cases of mechanic bowel obstruction however, when considering the 65+ age group, the rate goes up to 25%, and to more than 30% in individuals over 70 years of age. It is a surgical emergency that affects mostly older and female patients.

The mortality rates vary from 15% to 18%, with high variation due to age, comorbidities and late diagnoses. The former symptoms are vague and intermittent until the bowel obstruction becomes complete. Therefore, variable clinical manifestations can arise, depending on the site of the bowel obstruction. The most common symptoms are abdominal pain and distension, associated to nausea and vomiting. The diagnostic routine begins with simple abdominal radiography, in which Rigler's triad should be looked for. This triad is composed of ectopic gallstones that move according to the patients' position, pneumobilia and bowel distension. The contrasted abdominal computed tomography is the best method for diagnosis, as it is possible to identify Rigler's triad. The treatment is surgical, aiming at the removal of the impacted calculus and the correction of intestinal obstruction, perforation and fistula, if possible.

2. Case Report

A 60 – year – old female patient present to civil hospital Rajkot with chief complaint of generalized Abdominal Pain and vomiting for 15 days, pain non radiating, non referred and abdomen was visibly distended, Mild tenderness present all over abdomen without any guarding or rigidity at time of admission.

On Examination patient was vitally stable and maintaining saturation on room air and per abdomen mild distension with tenderness present all over abdomen. There was no palpable lump, VGP, Discharging sinus or dilated vein over abdomen. All routine blood investigations and laboratory investigations were found to be normal except WBC count (16100/cmm) and creatinine (1.8 mg/dl) were raised.

Chest and abdominal XRAY findings s/o minimal air seen under right dome of diaphragm with multiple abnormal air fluids level seen in central abdomen.

Ultrasonography suggestive of 4 cm dilated content loaded small bowel loops with sluggish peristalsis likely to be intestinal obstruction.

CECT (abdomen+pelvis) suggestive of dilatation of small bowel loops with air fluid levels within, maximum diameter approx 41 mm.

Abrupt transition of lumen is noted in distal small bowel loops in umbilical region with collapsed terminal ileal loops.

Small loculated collection of size 30 x 25 mm is noted near transition point.

No evidence of bowel ischemia or necrosis. S/o acute small bowel obstruction (? Due to underlying bands / adhesions)

Small part of base of gall bladder is seen with gastroduodenal junction extending upto and adherent to GB fossa with suspicious fistulous communication of duodenum with gall bladder.

The patient was referred for surgery, and an exploratory laparotomy was performed. Approx. 100ccpyoperitoneum was drained. A 3*3 cm^2 perforation found in jejunum ~100 cm distal to DJ flexure. A 4*4*3 cm^3 gall stone present there. Interbowelloop adhesiolysisdone. Primary repair of jejunal perforation done in two layers. Omentum adherent to gallbladder and right liver lobe and Adhesiolysisdone. Gall bladder found shrunken, friable, communication to 1st part of duodenum inantimesenteric border. Gallbladder separated from fistula site followed by cholecystectomy done with 1st part of duodenum fistula repair in 2 layers followed by omentopexy done. Followed by Stamm's Feeding jejunostomy25cm distal to DJ flexure. Patient was extubated and shifted to Recovery room. FJ feeding started from POD – 3.Post operative evolution was satisfactory.

Image 1: GB stone with Jejunal perforation

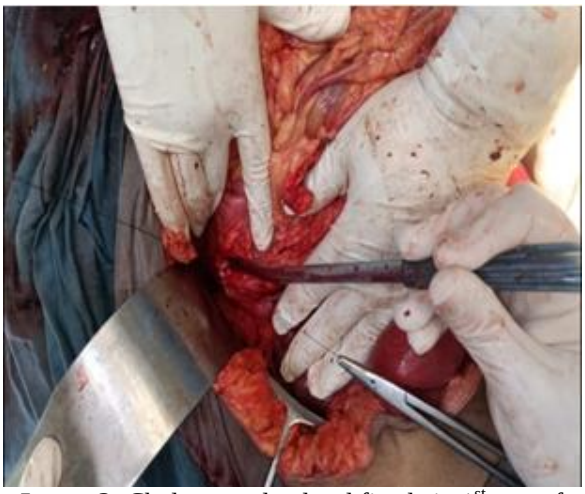

Image 2: Cholecysto-duodenal fistula in 1st part of duodenum

3. Discussion and Conclusion

Cholelithiasis is one of the most frequent surgical conditions and can lead to potentially dangerous complications as cholecystoenteric fistula and cholecystoduodenal fistula accounts for approximately 75 – 80% of all such fistulas. Although rare, this condition must be considered in the differential diagnosis of acute obstructive abdomen. The morbimortality rates are elevated, as this disease affects mostly older patients with multiple comorbidities, and has frequently late diagnoses. This condition is currently responsible for between 1% and 4% of all cases of mechanic bowel obstruction. It is referred to be more common for fistulas to be found in the duodenum due to the proximity of both organs, although has been reported an incidence of only. They can also be found in the colon, mainly in hepatic angle, jejunum and stomach.

The diagnosis of biliary ileum is rarely done in the preoperative period, being suspected only when, through radiological or imaging exams, the presence of gallstones in the intestinal loop, aerobilia and intestinal obstruction are observed. Generally, the patient reports as recent abdominal pain, characterizing acute cholecystitis or cholelithiasis history, with no surgical treatment. The surgical treatment of the biliary ileum is usually done urgently, and it can be performed in one or two stages, depending on the clinical performance of the patient and the inflammation in the abdominal cavity. The treatment aims to resolve the intestinal obstruction with the removal of the gallstone through enterotomy followed by enterorrhaphy.

Approaching the gallbladder and biliary fistula will depend on the clinical status of the patient and the presence of intense inflammation along the gallbladder. In the case presented, the patient had a stable clinical status, and, during the surgical procedure, No inflammation involving intestinal segments and thus we choose to approach the gallbladder. The biliary ileum should also be considered as a diagnostic hypothesis when facing a picture of intestinal obstruction in an elderly patient with a previous pathological history of cholelithiasis without prior cholecystectomy.

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