

A Case Report: Cholecystoduodenal Fistula and Gallstone Ileus

Dr. Vidit Jethwa, Dr. Jignesh P. Dave, Dr. Hetvi Marsonia

Abstract: *The gallstone ileus 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. 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, gallstone ileus is a surgical emergency that, although rare, has high morbimortality rates. 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. The postoperative evolution was satisfactory without complications.*

Keywords: Cholecystoduodenal fistula; Gallstone ileus; Acute abdomen; Gastrointestinal obstruction

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. Gallstone ileus was first described in 1964 by Bartholin. 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 a cholecystoenteric fistula. The gallstone often migrates to the intestinal lumen and causes a bowel obstruction, a condition which is called gallstone ileus. 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 diagnosis of biliary ileum is most often confirmed during surgery. The treatment is surgical, aiming at the removal of the impacted calculus and the correction of intestinal obstruction and fistula, if possible.

2. Case Report

A 60 - year - old male patient present to civil hospital Rajkot with chief complaint of generalized Abdominal Pain and vomiting for 3 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. Patient was known case of hypertension since 5 years and took Tab Atenolol regularly.

On Examination patient was vitally stable and maintaining saturation on room air and per abdomen mild distension with tenderness present all over abdomen with palpable cough impulse present in right side of Inguinal region. 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.

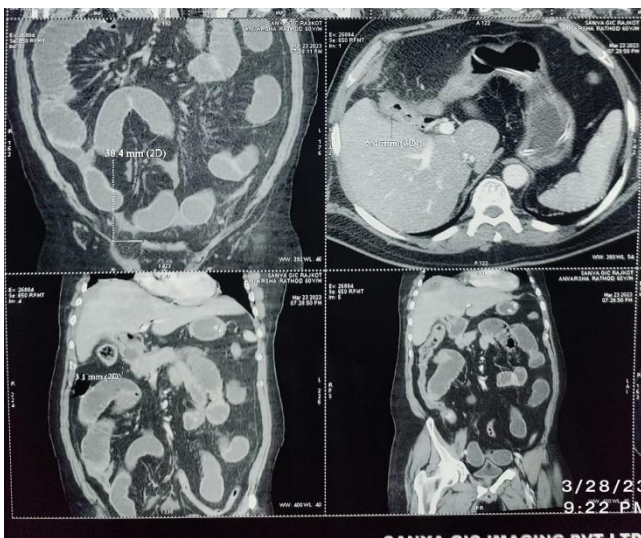
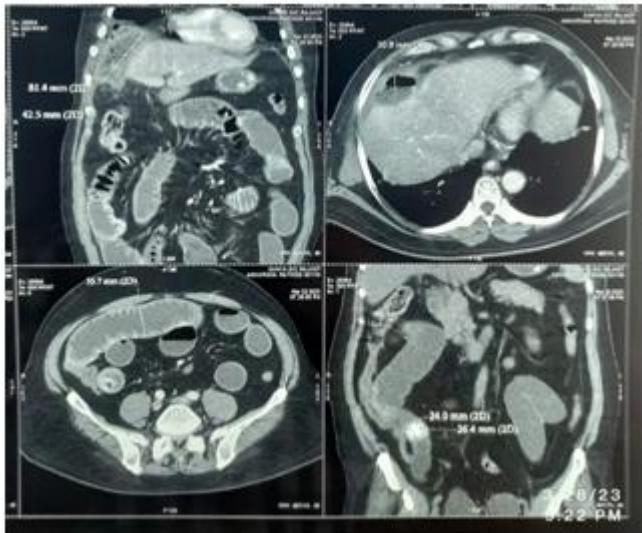
Chest and abdominal XRAY findings s/o minimal air seen under right dome of diaphragm with multiple abnormal air fluids level seen in central abdomen.

The Ulstasonography suggestive of 3.5 cm dilated content loaded small bowel loops with to and fro peristalsis present likely to be intestinal obstruction with minimal free fluid in between bowel loops present in right hypochondriac region anterior to liver capsule.

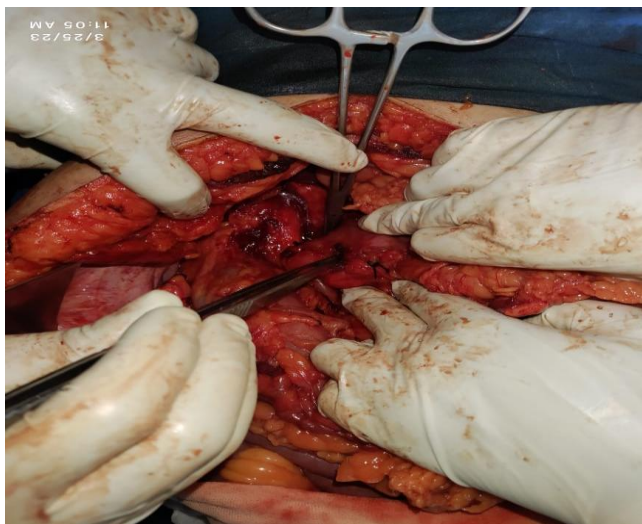
CECT (abdomen+pelvis) suggestive of Gall bladder is collapsed with Air foci present in lumen with diffuse thickening of wall (6mm) with small defect in fundus with loculated rim enhancing lesion of 8*4*3 cm in size with airfoci in subcapsular area of right lobe liver. Focal Defect of 3 mm in duodenal cap with fistulous communication of duodenum with gallbladder.

Air foci in IHBR and CBD present.

A calcified enterolith 26*24mm present in terminal ileal loop near ICJ.



CECT (Abdo+Pelvis) of 60/Male with GI obstruction.



The patient was referred for surgery, and an exploratory laparotomy was performed. On Exploration small bowel and all hollow organs and viscera found normal with lax ileocaecal valve. Omentum adherent to gallbladder and right liver lobe and Adhesiolysis done. 50 cc pus drained from superior surface of right liver lobe. Gall bladder found

shrunken, friable communication to 1st part of duodenum antimesenteric 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 jejunostomy 30cm distal to DJ flexure and hidden loop ileostomy done 30 cm proximal to ICJ. Patient was extubated and shifted to Recovery room. FJ feeding started from POD - 3 post operative evolution was satisfactory.

3. Discussion and Conclusion

Cholelithiasis is one of the most frequent surgical conditions and can lead to potentially dangerous complications as the 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 mechanical 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 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 enterolithotomy or enterolithotomy plus cholecystectomy and fistula repair are performed in the initial procedure (one stage), and the enterolithotomy with cholecystectomy only after the patient has recovered (two stages). 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.

References

- [1] Guimarães S, de Moura JC, Pacheco Jr AM, Silva RA (2010) Ileobiliar - uma complicação da doença calculosa da vesícula biliar. Rev Bras Geriatr Gerontol 13: 159 - 163.

- [2] Doko M, Zovak M, Kopljar M, Glavan E, Ljubicic N, et al. (2003) Comparison of surgical treatments of gallstone ileus: preliminary report. *World J Surg* 27: 400 - 404.
- [3] Brunelli AC, Justino TA, Andrade DA, Mantovani ME (2015) Íleoiliar: relato de caso. *Íleoiliar: relato de caso* 60: 32 - 34.
- [4] Reisner RM, Cohen JR (1994) Gallstone ileus: a review of 1001 reported cases. *Am Surg* 60: 441 - 446.
- [5] Lassandro F, Gagliardi N, Scuderi M, Pinto A, Gatta G, et al. (2004) Gallstone ileus analysis of radiological findings in 27 patients. *Eur J Radiol* 50: 23 - 29.
- [6] Townsend C, Beauchamp RD, Evers BM, Mattox KL (2014) Sabiston Tratado de Cirurgia: A base biológica da prática cirúrgica moderna. 19th edition, Elsevier, Brasil.
- [7] de Paula Fraga JB, e Souza TGS, do Nascimento ACR, de Oliveira Moraes E, Vieira FJ (2008) Íleoiliar - Relato de Caso. *HU Revista* 34: 141 - 145.
- [8] Campelo MRO, Chaves JPG, Menegola VM (2015) Íleoiliar: um relato de caso. *Rev AMRIGS* 59: 35 - 38.