CASE REPORT

GALLSTONE ILEUS WITH CHOLECYSTO-DUODENAL FISTULA IN AN ELDERLY MALE

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Gall stone ileus associated with cholecysto-duodenal fistula is a rare pathology. It most commonly presents in elderly females in 72–90% of cases. In such a case, a patient typically presents with recurrent attacks of sub-acute intestinal obstruction which usually resolves completely with conservative management only to recur again after some time. We are reporting a case of an 85-year-old gentleman who presented to us with gallstone ileus associated with cholecysto-duodenal fistula and his subsequent management. He underwent Laparotomy with enterotomy, stone extraction, Cholecystectomy and Graham's patch repair of the fistula. The purpose of this case report is to discuss a rare case of gall stone ileus associated with cholecysto-duodenal fistula. The diagnosis was confirmed using imaging and appropriate and timely surgical intervention for both mechanical intestinal obstruction and the fistula was undertaken.

Keywords: Gallstone ileus; Pneumo-bilia; Abdominal X-ray

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INTRODUCTION

Gall stone disease is a common problem effecting about 10–15% of adult population in United States. Majority of these patients remain asymptomatic but can present with potentially serious complications[1] such as Pancreatitis, Cholangitis, Obstructive Jaundice, Cholangitis and rare complications such as gallstone ileus, Mirrizi's syndrome, and biliary fistulas.[2–3] The incidence of gallstone ileus is 1–3% of the total burden of bowel obstruction. About 0.4% cases of gallstone disease present in the form of gall stone ileus.[4] 72–90% of gall stone ileus cases present in females.[5]

Investigations for suspected gallstone ileus include Abdominal X-Ray erect, Abdominal Ultrasound, CT Abdomen Pelvis with oral and IV contrast, MRCP, Endoscopic Ultrasound (EUS) and Gastroscopy.[6] Classical findings on plain abdominal X-Ray is Rigler's Triad which includes which consists of Pneumo-bilia, intestinal obstruction and an aberrantly located gallstone.[7] Abnormal communication between biliary and enteric system can be visualized with Ultrasound, CT, MRCP or EUS.[8] Cholecysto-duodenal fistula in rare cases can be first presentation of gall stone disease.[9] Management of gallstone ileus with Cholecysto-duodenal fistula can be A) Laparoscopic enterolithotomy and later closure of cholecysto-duodenal fistula OR B) Single step procedure involving enterolithotomy with cholecystectomy and closure of cholecysto-duodenal fistula which can be performed laparoscopically, laparoscopic assisted or via laparotomy.[10,11] Main deciding factor for the surgical modality adopted is the clinical condition of the patient and co-morbidities with an aim of keeping the morbidity and mortality to a minimum level.

CASE REPORT

We present a case of gallstone ileus with Cholecysto-duodenal fistula in a male as first presentation of gall stone disease.

This 85-year-old male patient presented initially with symptoms of abdominal pain, vomiting and moderate abdominal distension for the last six days. He also complained of relative constipation which was relieved occasionally by passage of hard stools. He was a known hypertensive and on regular medications.

On examination he was tachycardiac and dehydrated with toxic appearance. Abdominal examination revealed distension and tenderness over the epigastrium and right hypo-chondrium. Bowel sounds were exaggerated. The initial emergency investigations revealed Haemoglobin of 9.5 g/dL, neutrophilic leucocytosis (22000 cells/mm3) and an elevated BUN (Urea: 155 mg/dL, Creatinine: 2.4 mg/dL). The liver function tests were normal except for low albumin (1.8 g/dL) and total proteins (4.8 g/dL).

The plain abdominal radiographs in erect posture revealed dilated small bowel loops with Pneumo-bilia and dilatation of the biliary tree. (Figure-1). Abdominal ultrasonography revealed gallstones with sludge and mildly dilated hypo-dynamic small bowel loops. However, no aero-bilia was detected.

Abdominal CT was not performed due to patient instability on presentation and abnormal renal functions. Patient was initially managed conservatively with fluid resuscitation and drip and suck but this failed

to relieve his symptoms in 24 hours. At this stage, a decision was made to discontinue conservative management. Patient underwent exploratory laparotomy. Intra-operative findings included a cholecysto-duodenal fistula and a gallstone of about 3×3 cm at mid jejunum, obstructing the lumen. (Figure-2)

Cholecystectomy with Graham's patch repair of the duodenal fistula was performed while the stone was delivered by a longitudinal incision at the anti-mesenteric border of jejunum (Figure-3). Primary closure of the jejunum was performed in two layers transversely to avoid constriction of jejunal lumen.

Postoperative recovery was smooth with return of the renal function tests and inflammatory markers to normal on day 2 post op. Enteral feeding was allowed on day 4 and the patient was discharged home on 7th postoperative day with follow up arranged at one month in the outpatients.

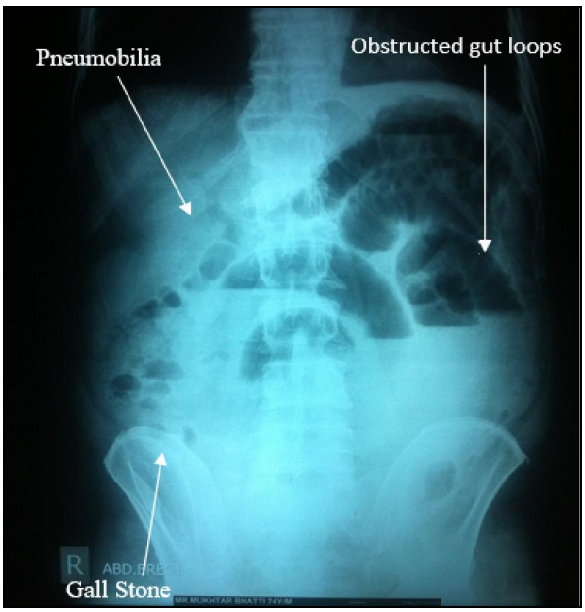

Figure-1: Abdominal X-Ray showing Rigler's Triad

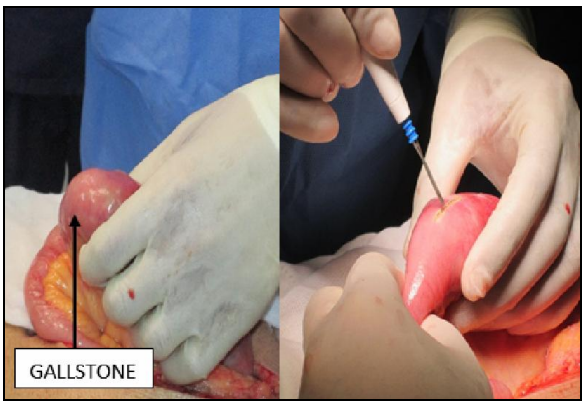

Figure-2: Palpation of Gall stone in gut followed by enterotomy.

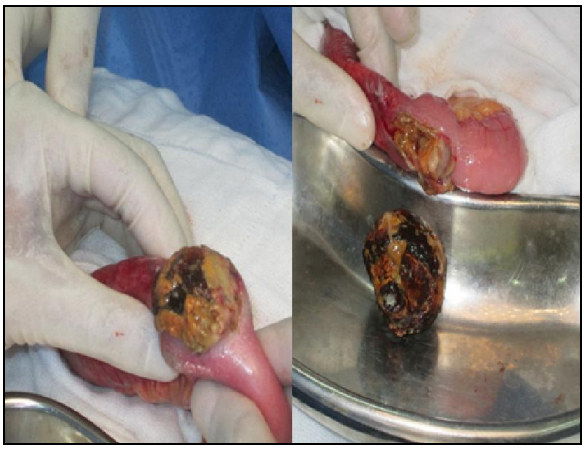

Figure-3: Removal of Gall stone

DISCUSSION

It was a rare first presentation of gallstone disease with gallstone ileus and cholecysto-duodenal fistula. Cholecysto-duodenal fistula can present with malrotation, Mirizzi Syndrome type II, vomiting of gallstones and gallbladder cancer.[12,13] It is a difficult diagnosis to make on clinical examination alone. A very high index of suspicion is required in an elderly female with known gallstone disease which presents with recurrent small bowel obstruction.

Management depends of presentation of patient, clinical condition of patient, co-morbidities and the cause of cholecysto-duodenal fistula. Non-operative, Laparoscopy, Laparoscopic assisted and Laparotomy are all available options. Planning for single stage procedure in which enterolithotomy, cholecystectomy and Graham's patch repair for fistula all can be performed at the same time VS enterolithotomy and expectant closure of fistula, enterolithotomy as first procedure and cholecystectomy with repair of fistula at second procedure can be performed. Gallstone ileus can be managed conservatively but majority of patients present within six months with recurrent obstruction.

Takata *et al* reported a case in which recurrent ileus was managed conservatively and patient passed stone in stool.[14] Laparoscopy is treatment of choice for management of cholecysto-duodenal fistula in stable patient where a pre-operative diagnosis is made. Latic *et al* reported 4 patients which were pre-operatively diagnosed with cholecysto-duodenal fistula and managed with laparoscopy.[11] Shioi *et al* reported a case in which spontaneous closure of cholecystoduodenal fistula was observed after lap-assisted enterolithotomy.[15] Shiwani *et al* and Owera *et al* reported cases of total laparoscopic enterolithotomy for gallstone ileus.[16,17]

CONCLUSION

The purpose of this case report is to discuss a rare case of gall stone ileus associated with cholecysto-duodenal fistula. The diagnosis was confirmed using imaging and appropriate and timely surgical intervention for both mechanical intestinal obstruction and the fistula was undertaken.

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AUTHOR CONTRIBUTIONS

All authors have contributed significantly, and that all authors agree with the content of the manuscript. SU, UIB, MWF and AT performed the Surgery while AT, ZR, SN, AB and HPR contributed in writing the case report and proof reading.

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