

Case Report

Gall Stone Ileus

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Abstract:

Abstract: Gall stone ileus is an uncommon cause of small bowel obstruction, accounting for only 1-3% of mechanical small bowel obstruction(1). It is an entity of elderly people with slight predominance in women over men (3.5: 1.0). The incidence of gall stone ileus in patients of cholelithiasis is less than 0.5%. Here, we report an interesting case of a 50 years old female who came to surgical emergency with acute intestinal obstruction. Her CT scan revealed the classical triad of gall stone ileus including small bowel obstruction, pneumobilia and atypical mineral shadow. The patient underwent emergency laparotomy with enterolithotomy of a stone 1 and half feet distal to DJ. Patient was discharged after 8 days in a satisfactory condition and underwent an elective cholecystectomy with cholecystoduodenal fistula repair after 3 months.

Key words:

Gall stone ileus, cholecystoduodenal fistula, enterolithotomy, cholelithiasis.

Introduction:

Gall stones are completely asymptomatic in the majority of patient (60-80%). Gall stone ileus is an uncommon cause of small bowel obstruction that generally occurs in elderly patients in their seventh decade of life. We report the case of an elderly female whose gallstone ileus was diagnosed by CT scan abdomen. We also review the literature and discuss the diagnosis and treatment of this condition.

Case report:

A 50 yr old woman came to the emergency surgical department after 5 days of worsening abdominal pain, bloating, nausea and vomiting. The patient had no history of jaundice or known gall bladder symptomatology. She was febrile & appeared mildly dehydrated. A physical examination revealed absent bowel sounds and a moderately upper abdomen distension & nontender abdomen without rebound, guarding or peritoneal irritation on palpation. Her white blood cell count was 9200/cmm with 67% polymorphs, ESR-35 mm 1st hr. Plain x-ray abdomen did not reveal any free air under diaphragm, significant air fluid levels & any calcified ring shadow in the Rt. Upper quadrant. There was no pneumobilia. On ultrasonography abdomen, there

was fluid distended stomach & proximal small gut seen in the upper part of abdomen & distal small bowel appears normal, gall bladder was contracted & an echogenic focus with DAS was present within the gall bladder lumen suggestive of pneumobilia. CT scan abdomen was done & revealed under distended gall bladder with suggestion of calculi in it. Pockets of air are seen intrahepatic bile ducts. Stomach, duodenum & jejunum are distended with a faintly calcified mass measuring 34x33 mm in size seen in small bowel loops (in left mid lower abdomen and bowel loops do not appear to be dilated beyond it.

From the evaluation of above mentioned investigations, the clinical diagnosis of gallstone ileus was made and she underwent a laparotomy for a planned enterolithotomy. We found dilated proximal small bowel one and half feet distal to the DJ junction & distal decompressed bowel around an area in the Jejunum in which a hard stone could be palpated. After taking care to protect the wound with towels, we created a longitudinal, approximately 2cm enterostomy just proximal to the site of obstruction. A large 3.5x2.5x3.4 cm, mixed type stone was removed through the enterostomy (figure) & proximal small bowel was decompressed using the suction device. We closed the enterostomy in a transverse fashion.

The abdomen was then explored and no more stones were identified. The area around the G.B. was found to have quite dense fibrotic adhesions between the gallbladder and small bowel. The peroperative decision was made to leave the gall bladder & fistula as such. The abdomen was closed after putting corrugated drains. Patient recovered well & postoperative period was uneventful. The patient was discharged after 8 days with advice to come for 2nd. Surgery after 3 months. After 3 months, patient was again subjected to operation for cholecystoduodenal fistula. Peroperatively Gall bladder was shrunkened & dense adhesions were separated to identify the cholecysto-duodenal fistula. Cholecystectomy was performed with closure of duodenal fistula. Post operative period was uneventful & patient was discharged in a satisfactory condition.

Discussion:

Gall stone ileus is an uncommon cause of small bowel obstruction accounting for 1%-3% of all mechanical bowel obstruction and over 25% of nonstrangulated bowel obstruction in patients older than 65 years. It is a complication of cholelithiasis in less than 0.5% of patients. The average age of onset is 72 years, and it occurs in women more commonly than in men, with a reported ratio of 3.5: 1.0. Patients are often debilitated with multiple medical problems, leading to a reported mortality rate of 15% to 18%. Fewer than 20% of gall stones are visible on radiographs. The classic presentation is Rigler's triad of small bowel obstruction, pneumobilia, and atypical migratory mineral shadow on plain radiographs (2).

The gall stone usually enters the bowel via a cholecystoenteric fistula resulting from inflammation and adhesions between the biliary and enteric system following cholecystitis (3) half of patients; however, do not report a history of biliary symptoms. Cholecystoduodenal and cholecystogastric fistula also have been found as two cases that occurred after endoscopic sphincterotomy.

The stone travels through the bowel and gets lodged in different places along the GI tract. A stone lodged in the duodenal bulb can present as GOO (Bouveret's syndrome). Most stones settle in the ileus, followed by the jejunum and stomach. Only 13% of patients with enteric stones pass them spontaneously via the rectum.

The treatment of choice is enterolithotomy and stone extraction, with or without an additional

cholecystectomy, and correction of the biliary enteric fistula in lower risk patients. A review of 1,001 cases of gallstone ileus by Reisner and Cohen found a higher mortality rate (16.9% versus 11.7% in patients undergoing a one stage procedure of stone removal and fistula correction).

Another retrospective comparison shows a complication rate of 61% for patients undergoing repair of the biliary fistula with enterolithotomy versus 27% for enterolithotomy alone. Plain X-ray of abdomen may be helpful if clinical features of intestinal obstruction, shows calcified gall stone in the intestinal lumen, air in biliary system. Pneumobilia is present in only 1/3rd of cases as occlusion of the cystic duct or CBD results from inflammatory process within the gall bladder. The gas in the gall bladder fossa radiography abdomen & reorganization depends upon the density of calcium in the stone (5, 6)

Absence of pneumobilia and nature of shadowing in the gall bladder fossa remains a problem for ultrasonography diagnosis of gall stone ileus (7).

CT scan on the other hand, can demonstrate features of gall stone ileus including cholecystoduodenal fistula & the intra luminal gall stone in the bowel, even when this is not heavily calcified (8)

The reasoning for favoring a one stage procedure is to prevent future complications resulting from the retained Gall bladder. These include recurrence of gall stone ileus, cholecystitis, cholangitis, and a higher incidence of Gall bladder carcinoma (1, 9). In Reisner and Cohen's review, however recurrent gall stone ileus was observed in only 6% of patients who underwent enterolithotomy alone, and cholecystectomy did not prevent this complication (1). A retrospective comparison of enterolithotomy with cholecystectomy and fistula repair noted that one out of 25 patients developed gall bladder carcinoma within 55 months of surgery. For most patients, the retained gall bladder gets shrunkened and atrophied, and became non-functional.

Given the relatively low risk of subsequent problems from a retained gall bladder and the debilitated state of most patients presenting with gall stone ileus, the consensus favors enterolithotomy alone, accompanied by aggressive resuscitation monitoring, correction of electrolyte imbalances and antibiotics.

Traditionally an enterolithotomy has required a laparotomy. Several authors have reported using laparoscopic or laparoscopic assisted techniques to perform the enterolithotomy and the subsequent elective cholecystectomy CBD exploration, choledocholithotomy, and primary bile duct closure. (11, 12). The one stage procedure may be undertaken in low risk patients who can withstand the longer operation and for those patients with acute cholecystitis, a gangrenous gall bladder or large residual stones. (2)

Conclusion:

CT provides all of the specific findings of gall stone ileus that are incompletely infrequently demonstrated by plain abdominal radiography or by USG. So, early use of CT in elderly people with clinical features of intestinal obstruction helps to identify gall stone ileus, which is associated with significant morbidity and mortality if left untreated. With continued improvement of laparoscopic techniques, the morbidity and mortality from enterolithotomy alone may continue to decrease, lending even more support for this as the procedure of choice in preoperatively carefully diagnosed gall stone ileus. The GI tract should be searched carefully for additional stone at the time of laparotomy.

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