

GALL STONE ILEUS: AN UNCOMMON CAUSE OF SMALL BOWEL OBSTRUCTION AT AN UNUSUAL AGE: A CASE REPORT

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ABSTRACT

Gallstone ileus is a rare complication of cholelithiasis. It is an uncommon cause of a mechanical small bowel obstruction. Repeated episodes of cholecystitis results adhesion of the gallbladder to the small bowel (usually duodenum) with eventual formation of cholecystoenteric fistula via which gallbladder stone enters the small bowel. It is most commonly seen in elderly females hence linked with high morbidity & mortality. Computed tomography (CT) imaging have made it easier to diagnose gallstone ileus effectively. Surgical intervention results in prompt relief of obstructive symptoms by removing stone & repairing fistula. Here is a case of gall stone ileus in a 27-year-young gentleman who presented to us with history of acute abdomen & without any comorbidities or biliary manifestation.

KEYWORDS

Cholecystoduodenal fistula, enterotomy, gallbladder stones, gallstone ileus, intestinal obstruction

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INTRODUCTION

Gallstone ileus is small bowel obstruction caused by the impaction of migrated gallstone(s) in the bowel. It is a rare complication of calculus cholecystitis and an uncommon cause of a mechanical small bowel obstruction. It is most commonly seen in elderly females and linked with high morbidity and mortality.^{1,3} Reporting this case aims to increase the awareness of this overlooked condition as timely diagnosis and management will lead to improved prognosis in these patients.³

CASE REPORT

History: A 27-year-old male presented with a history of continuous colicky epigastric pain radiating to the back with multiple episodes of non-bilious vomiting for 15 days. There is no prior history of similar complaint. There is no record of any comorbidities or any biliary manifestation. On examination abdominal distension with reduced bowel sounds was appreciated. Lab profile was within normal limit.

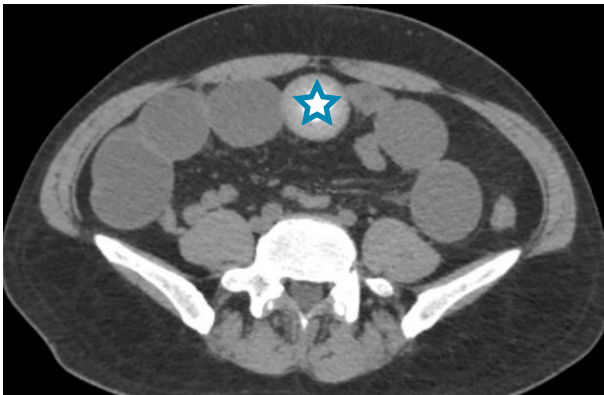


Fig. 1: Axial section of CECT abdomen showing obstructive calculus (★) in distal jejunum with proximal small bowel dilatation.

Imaging Findings: Contrast-enhanced Computed tomography (CT) of the abdomen showed.

- Thickened gall bladder wall with air foci within the lumen.
- The gall bladder and adjacent second part of the duodenum are thick-walled and inflamed with a fistulous tract between the two structures. Pneumobilia with gas within the intra and extrahepatic biliary tree.
- Dilated small bowel loops with maximum diameter ~ 3.8cm and a lamellated hyperdense calculus measuring ~ 17 x 15 mm in the lumen of distal jejunum loop around the transition point. Collapsed bowel loops distal to it. No other intraluminal filling defects.



Fig. 2: Reformatted coronal section of CECT abdomen showing obstructive calculus (★) in distal jejunum with proximal small bowel dilatation (⊕) & air foci (↘) in biliary tree.

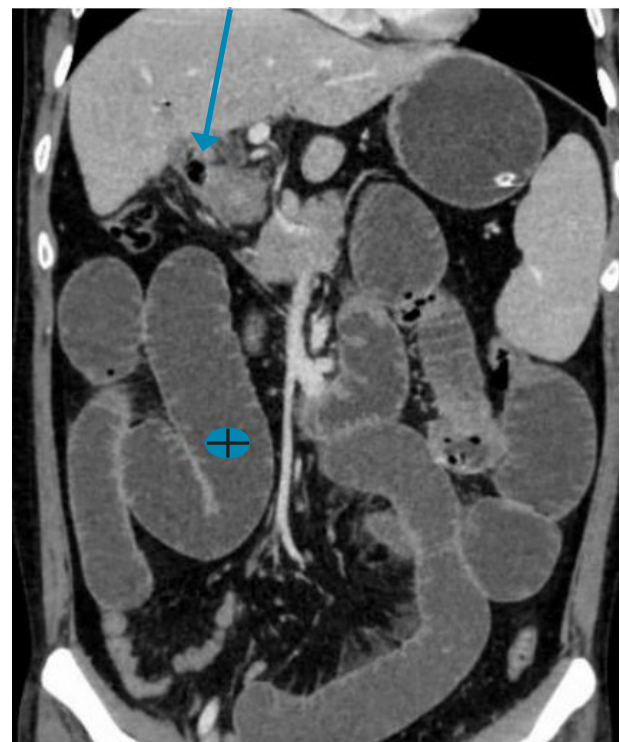


Fig. 3: Reformatted coronal section of CECT abdomen showing air foci in gall bladder lumen with cholecystoduodenal fistula (⊕) & dilated small bowel loops (↘).



Fig. 4(A): Intraoperative images showing gall stone within distal jejunum lumen with distended small bowel loop proximal to obstruction

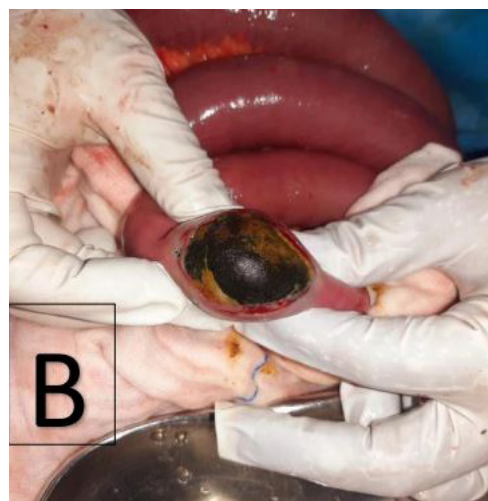


Fig. 4(B): Intraoperative images showing gall stone retrieval post jejunotomy.

- Rigler's triad: Obstructive lamellated hyperdense gallstone at distal jejunal loop with proximal small bowel dilatation and air in gall bladder & biliary radicle.

Outcome: In this case, laparotomy with subtotal cholecystectomy with primary repair of cholecystoduodenal fistula with jejunal enterotomy for stone retrieval with the primary repair was performed. The patient had an uneventful intraoperative and postoperative course and was discharged in stable condition.

DISCUSSION

Clinical Perspective: Repeated episodes of cholecystitis result in bilioenteric fistula via which gallbladder stone enters the small bowel.² The impacted calculi are usually >2–2.5 cm in diameter to cause obstruction. Smaller calculi rarely cause obstruction. They pass as “rolling stones”, however these stone can cause obstruction as an inspissated mass.¹

Commonly they are lodged in the ileum and ileocecal valve in ~ 60%, jejunum in ~16%, stomach in ~ 15%, and colon (gallstone colesus) in ~2–8% of cases. Incidence of impaction of stones is rare at sites of strictures, e.g., Crohn's or diverticulitis, and stenosis, e.g., at the neck of a Meckel's diverticulum.¹

Symptoms and signs are often intermittent and include abdominal pain, nausea, vomiting, abdominal distension, intermittent right upper quadrant pain, weight loss, anorexia, or early satiety. Signs of bowel perforation with/without peritonitis are infrequent as the first presentation.¹

Imaging Perspective: The bowel obstruction, air in the biliary tree, and a radiopaque gallstone within the gastrointestinal tract is the classic radiographic triad (Rigler's triad) described with gallstone ileus.⁴ CT overall sensitivity, specificity, and accuracy in diagnosing gallstone ileus is around 93%, 100%, and 99%, respectively.⁵ CT improves the diagnosis of gallstone ileus, providing vital information regarding the exact number, size, and location of ectopic stones and the site of intestinal obstruction or direct visualization of a biliary–enteric fistula and help the clinicians in the management of patients.³

Outcome: Surgery is the treatment of choice, which includes retrieval of stone along with fistula repair.

In conclusion, CT imaging has made it easier to diagnose gallstone ileus effectively. Surgical intervention results in prompt relief of obstructive symptoms by removing stone and repairing fistula. Delay in the detection and treatment of gallstone ileus may result in significant morbidity and mortality.

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