A Rare cause of small bowel obstruction

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INTRODUCTON

We are presenting a rare and unique case of mechanical small-bowel obstruction with a large 53 mm gallstone which passed through a 2 inch cholecystoduodenal fistula treated with 2 stage surgical procedure.

CASE DESCRIPTION

History of Presenting Illness

- 62 years old female presented with diffuse abdominal pain, nausea and vomiting for 2 days.
- No prior history of abdominal surgery

Physical Exam

- Abdomen was soft, mildly distended and tender in epigastric region

Work up & Management

- CT scan – Distended small bowel with transition point in the right side of the abdomen suspicious for small bowel obstruction. Numerous small calcified densities in the lumen of small bowel noted just proximal to the obstruction point.
- Upper GI series and small bowel follow through - An upper GI series and small bowel follow through showed pocket of contrast projecting laterally from the proximal duodenum which persist on later images corresponding to fistulization
- Patient was taken for exploratory laparotomy.
- During surgery, a large conglomerate of multiple gallstones was removed from proximal ileum. It was 53 mm in greatest dimension.
- Due to severity of inflammation and adhesions, fistula repair was not attempted.
- Patient did well after surgery.
- A 2nd surgery was planned after 3 months.
- Patient underwent cholecystectomy, primary repair of fistula as well as lysis of adhesions.

- **Diagnosis: Gallstone ileus from a large cholecystoduodenal fistula**

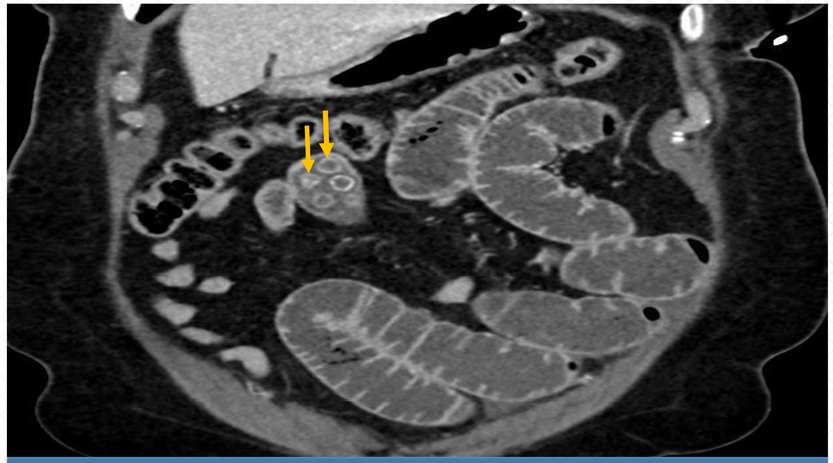

Figure 1 – CT scan image of dilated small bowel with intraluminal gallstones seen (arrows)

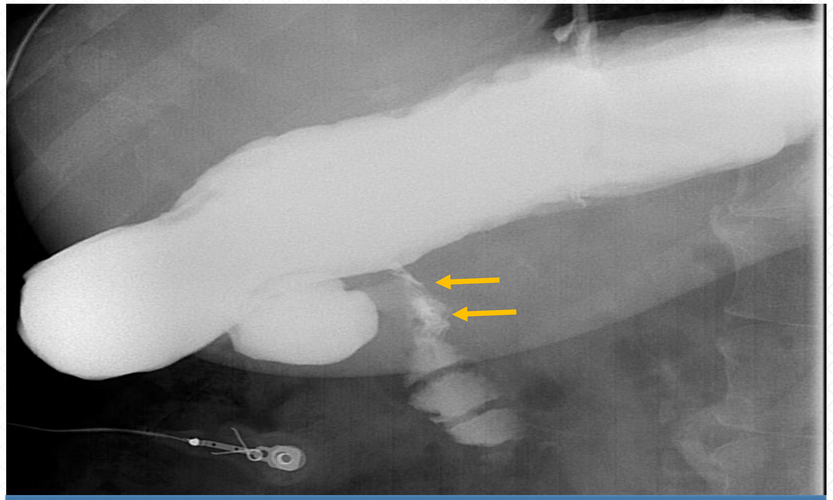

Figure 2 – Upper GI series showing fistula tract from duodenum to gallbladder (arrows)

DISCUSSION

- Gallstone ileus is a rare complication of cholelithiasis which presents as mechanical small-bowel obstruction.
- Incidence is less than 5% of patients who presents with small-bowel obstruction.
- It was first described in 1654 by Dr Erasmus Bartholin. The pathogenesis involves adhesions formation between the inflamed gallbladder and adjacent part of the gastrointestinal tract.
- Subsequently, large stones within the gallbladder cause pressure necrosis, resulting in formation of a cholecystoenteric fistula, which allows gallstones direct access to the bowel.
- Most fistulas involve the duodenum, but fistulas to the stomach and colon have been described.
- Most stones lodge in the ileum (approximately 60%), the narrowest segment of the bowel.
- This commonly effects elderly woman who usually presents with abdominal pain, abdominal distension nausea and vomiting.
- Patient may present with radiographic findings of Rigler's triad - air in bile duct, small intestinal obstruction and ectopic gallstone.
- Management is primarily surgical with 1 stage or 2 stage procedure depending on presence of severe inflammation and adhesions.
- In this case a 2 staged procedure was elected due to severity of inflammation and adhesions. First, a laparotomy with enterolithotomy was performed which was followed by cholecystectomy and primary repair of fistula.

CONCLUSION

Purpose of this case report was to educate respected colleagues about gallstone ileus as a uncommon cause of mechanical small bowel obstruction with often delayed presentation and non-specific symptoms.