Laparoscopic Management of a Gallstone Ileus in a Patient with a BMI of 60

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Introduction

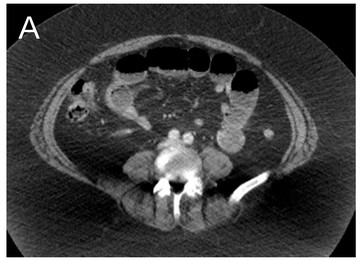
Gallstone ileus is an uncommon form of bowel obstruction that occurs when a large gallstone passes into the small bowel. This typically causes obstruction at areas of reduced caliber such as the terminal ileum. Early intervention in these patients is key as this condition can carry significant morbidity and mortality. Laparoscopy remains controversial in this setting and is typically reserved for non-obese patients as laparoscopic surgery is typically more difficult in this population. Here, we present a case of a 58 year old female with a BMI of 60.4 who underwent totally laparoscopic enterolithotomy using umbilical tape to control the dilated bowel and prevent spillage. She did well post-operatively and was discharged on post-operative day 6. This case demonstrates the efficacy of laparoscopic management of gallstone ileus in morbidly obese patients.

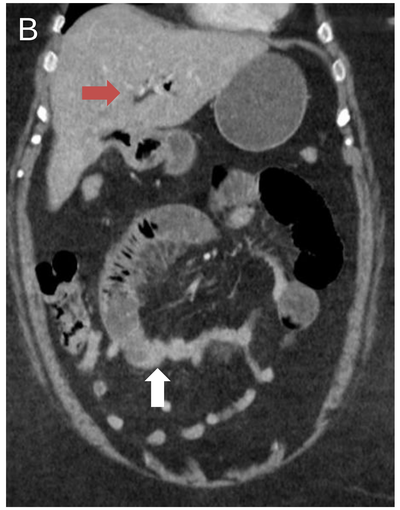
Presentation

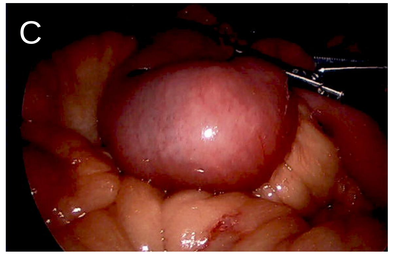
- A 58-year-old female with a BMI of 60
- 1 week history of vomiting and 24 hours of acute abdominal pain and fevers.
- No bowel movement for several days and had not passed any flatus since her pain began.
- Hyperbilirubinemia, no leukocytosis
- **Figures A and B:** CT scans revealing small bowel obstruction with a transition point in the mid-abdomen (white arrow) and pneumobilia (red arrow). The patient had no history of abdominal surgery.
- Likely gallstone ileus and taken to the operating room.

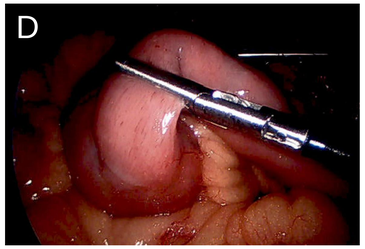
Procedure

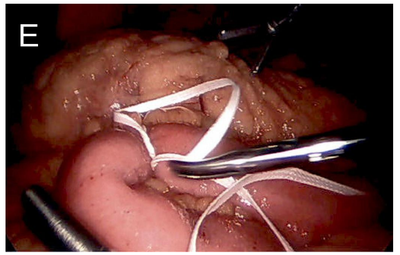
C. Optiview technique used to gain entry followed by 4 ports. Bowel then inspected retrograde until a hard, intraluminal mass was encountered
D. Proximal bowel inspected and found to be dilated
E. Bowel controlled using umbilical tape
F. Enterotomy made using electrocautery
G. Gallstone removed from bowel
H. Enterotomy closed transversely and umbilical tape removed. Abdomen closed.
I. Gallstone after removal

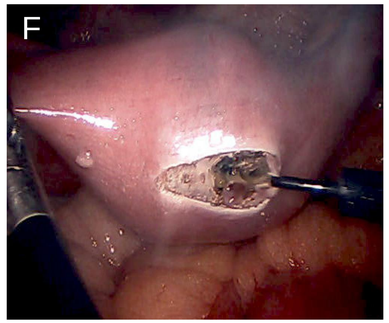


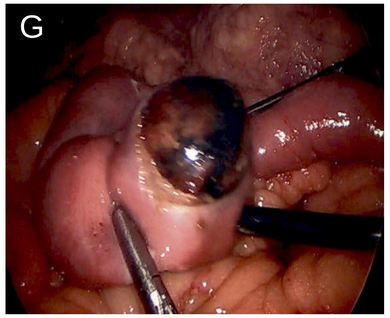


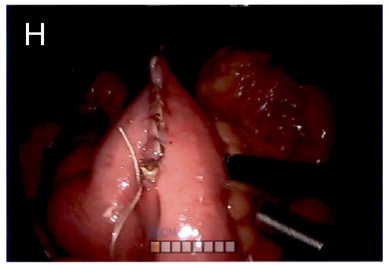














Discussion

- Gallstone ileus is a rare complication of chronic cholelithiasis where a gallstone causes a biliary-enteric fistula[1]
- The gallstone transits into duodenum[2] and is usually caught by ileocecal valve.
- Gallstone ileus represents 0.5% of all mechanical small bowel obstructions[1].
- Rigler's triad (diagnostic for gallstone ileus): Small-bowel obstruction, ectopic cholelithiasis, and pneumobilia[3]
- 10% of gallstones are radiopaque[4] and CT scan has a sensitivity of only 55-80%[5].
- Treatment is surgical – usually open
  - Laparoscopic assisted - affected loop of small bowel is brought out of the abdomen and the procedure completed extracorporeally[6].
  - Totally laparoscopic procedures are more rare[7].
- Totally laparoscopic procedure is a good option for obese patients where an open procedure would be complicated and increase risk of wound infection
- Laparoscopic-assisted and open enterolithotomy have been shown to be equivalent in hospital length of stay and complications[6].
- The literature regarding totally laparoscopic techniques for this pathology is sparse. Future studies could seek to elucidate the potential benefits of remaining totally laparoscopic in gallstone ileus and how this may differ in special populations such as bariatrics.

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