Not Again… A Case of 3 Recurrences of Gallstone Ileus

Steven Koprowski, MD and Michael Loudin, MD[1]

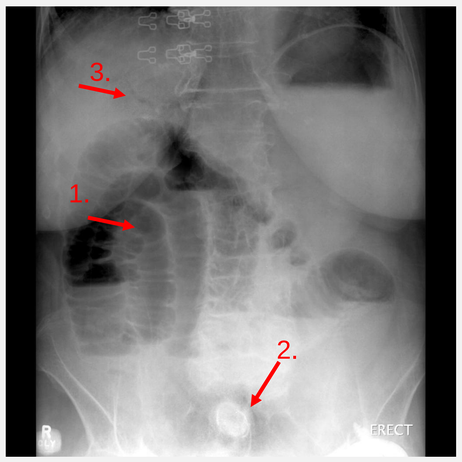
[1]OHSU Division of Gastroenterology and Hepatology

U.S. Department of Veterans Affairs
Veterans Health Administration
VA Portland Health Care System

OREGON HEALTH & SCIENCE UNIVERSITY

Background

- Gallstone ileus is rare in the general population; however, it is responsible for up to 25% of mechanical bowel obstruction cases in patients 65 and older.
- Average age – early to mid 70s
- 1/3 of patients with serious comorbidities
- Secondary to inflammation and adhesions between gallbladder and any adjacent bowel segment
- Diagnosed by imaging with Rigler's triad: 1) Obstructed bowel pattern, 2) radiio-opaque gallstone, 3) pneumobilia



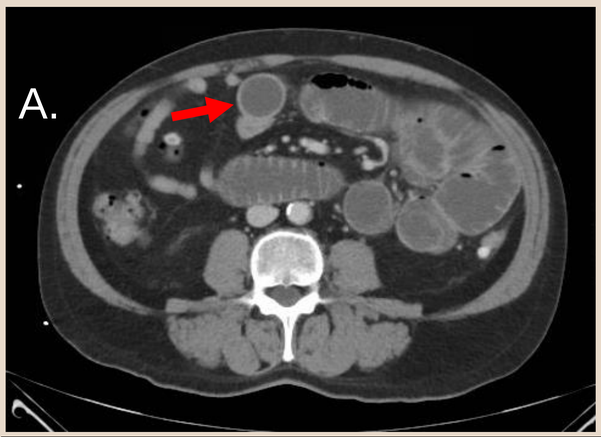
Case courtesy of A.Prof Frank Gaillard, Radiopaedia.org, rID: 6906

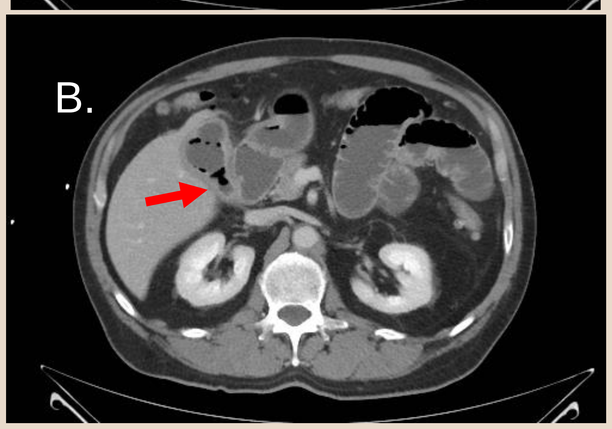
Case Presentation

- A 68 year old male with hypertension, type II diabetes (well-controlled), and gastroesophageal reflux presented with left lower abdominal pain with progressive nausea, bilious emesis, anorexia and obstipation.
- Similar episode 1 month prior for which he did not seek medical attention and resolved without intervention
- Vitals: Temp 99.3 F, HR 128, BP 134/84, RR 24, O2 sat 100% on RA
- Pertinent Exam: Uncomfortable, but non-toxic. Moderate diffuse abdominal tenderness with negative Murphy's sign and no peritonitis

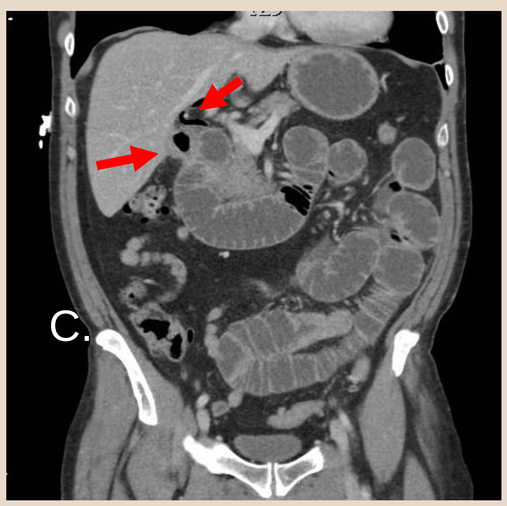
Presentation 1 – 1st Recurrence

(presuming 1st incidence occurred at home)





A. Water soluble, well-circumscribed density located at a point of obstruction within the distal ileum
B. Chole-enteric fistula at the duodenum with air in gallbladder
C. Pneumobilia and chole-enteric fistula



Surgery 1: Enterotomy and stone removal

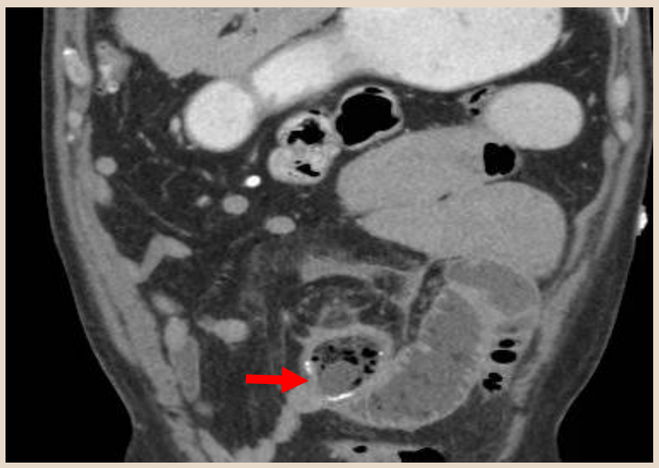
Presentation 2 – 2nd Recurrence

6 months later

Surgery 2: Bowel resection alone

Presentation 3 – 3rd Recurrence

3 weeks later



Surgery 3: After 2 months of full liquids -> bowel resection, cholecystectomy, fistula closure

Post-operative course complicated by biloma treated with percutaneous drainage

Symptom free at 6 month follow-up

Discussion

- Recurrence rates approach 5% and can occur after any procedure.
- Literature on outcomes is limited primarily to small, retrospective case series.
- Treatment options: observation, enterotomy with gallstone removal alone, bowel resection alone, a **COMBINED** intervention that addresses the obstruction and performs definitive repair (cholecystectomy and fistula repair), and a **STAGED** approach where the obstruction is first addressed and definitive repair is performed at a later time.

Halabi *et al.* 2014 – Compares interventions for gallstone ileus repair

- Nationwide database sample estimate - over 3 million cases of mechanical bowl obstruction -> approximately 3,268 due to gallstone ileus
- Most cases of gallstone ileus are repaired with enterotomy with stone removal alone (62%).
- **Mortality outlook is better with enterotomy and stone removal alone (5%)** when compared to 1) a combined enterotomy with stone removal and definitive repair (7%) and 2) any procedure involving bowel resection (7-13%).

Mir *et al.* 2015 – Compares interventions for recurrent gallstone ileus repair

- Mortality of enterotomy with stone removal (4.8%) is better than a combined enterotomy with stone removal and definitive repair (22%).

Caution for bias: These studies are non-randomized with high likelihood for selection bias

Learning Points

- Consider the patient population -> patients with gallstone ileus are older and can have more serious comorbidities than an average bowel obstruction.
- Enterotomy with stone removal alone may be the best first option for intervention, even in recurrent cases.
- In select patients, definitive intervention can be considered and a staged setting may be preferred.
- Definitive intervention may be helpful for cases with frequent recurrence.
- Recurrent gallstone ileus can recur irrespective of the previous intervention.
- Always consider selection bias in literature that is based on retrospective data.

References

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- Mir, S. A. (2015). Management and outcome of recurrent gallstone ileus: A systematic review. *World Journal of Gastrointestinal Surgery, 7*(8), 152. doi:10.4240/wjgs.v7.i8.152
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