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) radiopaque gallstone, 3) pneumobilia

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 obstruction.
- 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 8 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 bowel 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