Gallstone Ileus

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Diagnosis and Management
Background

- Misnomer coined by Bartolin in 1654
- Not a true ileus
- True mechanical obstruction in the bowel lumen secondary to the impaction of one or more gallstones
- Rare cause of small bowel obstruction – accounting for 1% - 2% of SBO
- In the geriatric population, incidence may be as high as 25 percent
- Bouveret’s syndrome unique form in which a gallstone obstructs the gastric outlet

References:
2. Lopez-Martine JA. et al., Bouveret’s syndrome. Case report
Pathophysiology

- Associated with inflammatory process of acute cholecystitis
- Body attempts to compartmentalize process by surrounding it with adjacent soft tissues
- Phlegmon formed is composed of omentum and nearby bowel
- If of sufficient intensity and duration than gall bladder can form a fistulous communication with adjacent hollow organs

Pathophysiology (cont’d)

- **Most common:** Cholecysto-duodenal fistula
- **Can also involve** colon, stomach or more distal areas small bowel
- **Gallstones involved** usually large, >2-3 cm
- **Stone enters GI tract** via the fistula, migrates distally until it exits rectum or becomes lodged in the narrowest part of the bowel, terminal ileum

Clinical Presentation

- Typical patient elderly woman
- History biliary colic
- Presents with “tumbling” bowel obstruction
- Diagnosis should be suspected in patients with obstruction in absence of an incarcerated hernia or a history of prior abdominal surgery
Diagnosis

- Hard to diagnose – previous series yield 43% to 73% diagnosed pre-operatively (6)
- >50% diagnosed only at laparoscopy (6)
- Antecedent history of gallstone disease presents only in 50% patients
- **Rigler’s Triad** (2): aerobilia, ectopic gallstones and bowel dilatation suggestive but infrequent finding and **NOT** diagnostic
- CT scan highly sensitive and accurate in pre-op diagnosis of suspected intestinal obstruction

Management

- Uniform surgical not yet clearly defined
- Debate involves need for definitive biliary tract surgery:
  - Enterolithotomy alone to relieve obstruction with biliary tract surgery later (two stage procedure)
  - or to perform the biliary tract surgery at the same sitting (one stage procedure)
Operative Strategy

- **Two stage**: quick relief mechanical obstruction
  - avoid need fistula exploration and reduces operative time
  - most fistulas close spontaneously if left alone
  - published reports (7) show lower mortality rate 11% in two stage procedure compared to 16.7% for one stage procedure

- **One Stage**: more technically difficult reduces occurrence recurrent gallstone ileus, cholecystitis

In a recent study in the Singapore the journal of medicine both surgical methods were used in a single department to determine if there was an advantage of one treatment versus the other\(^5\). Overall there was found to be no significant difference in morbidity or outcome.

Gallstone ileus is a rare condition as of yet there is no gold standard.

The two stage procedure is safe in both high and low risk patients and requires a shorter operative time.

The remnant fistula and gallbladder rarely (<4%) cause future complications\(^7\).