Evolving Gallstone Ileus

SUNY – Downstate
Case Conference
January 12, 2012
Initial Presentation

• HPI: 90 yo F c 1wk h/o abdominal pain and N/V. Denied F/C. Passing flatus/BM.
• PMH: DM, HTN, CAD.
• PSH: C-sections x 3.
• Meds: Enalapril, HCTZ, Plavix, Colace
Exam

- VS: 97.2 54 197/76 17 99%RA
- WDWD, NAD
- RRR
- CTAB
- Soft, mildly distended, nontender.
- Well healed Pfannenstiel scar.
Labs

- CBC 4.9 / 10 / 32 / 290
- BMP 139 / 3.5 / 103 / 24 / 11 / 0.83 / 198
- Amy 37 / Lip 5
- AST 21 / ALT 16 / TB 0.5
Hospital Course

- Admitted for observation.
- Negative MRCP.
- Symptoms resolved.
- Discharged to home on regular diet.
Second Presentation

• Returned to ED 3 days post d/c, with recurrence of symptoms.
• Exam unchanged.
• Labs
  – CBC 6.3 / 12 / 38 / 271
  – BMP 137 / 5.4 / 100 / 26 / 14 / 0.78 / 122
  – Amy 53 / Lip 15
Hospital Course

• Readmitted for observation.
• Symptoms resolved; tolerated diet.
• At 1 week, abrupt ab distention, N/V.
Operative Intervention

- Underwent uneventful enterolithotomy.
- Remaining bowel unremarkable.
- Dense adhesions in the RUQ.
Hospital Course

- Started diet POD 7.
- Postop course complicated by refractory afib/flutter.
- Discharged to rehab facility POD 22.
Questions
Gallstone Ileus

• Mechanical obstruction caused by intraluminal impaction of one or more gallstones anywhere between the stomach and the rectum.
• S/Sx frequently nonspecific.
• Elderly patient with comorbid conditions.
Epidemiology

- 1-4% of all cases of intestinal obstruction in general population.
- 25% of nonstrangulated SBO over age of 65.
- Mean age 65 to 75.
- Accurate preop diagnosis in 24 to 73% of cases.

Pathogenesis

• 60-80% have demonstrable bilioenteric fistula.
  – 60% cholecystoduodenal fistulas
• 20-30% have complex RUQ mass on laparotomy.
• Fistulas can occur between the biliary tree and stomach, small bowel, large bowel.
• Bilioenteric fistulas may be associated with surgery, gall bladder carcinoma, duodenal ulcers, and IBD.

Related Eponyms

- Mirizzi Syndrome
- Bouveret Syndrome
- Rigler’s Triad
Related Eponyms

• Mirizzi Syndrome
  – Common hepatic duct or CBC obstruction caused by compression from GS in cystic duct or Hartmann’s pouch

• Bouveret Syndrome
  – Gastric outlet obstruction caused by GS impaction in distal stomach or duodenum

• Rigler’s Triad
  – Bowel obstruction, pneumobilia, ectopic gallstone.
Anatomy

- Stones may pass spontaneously through Ampulla of Vater.
- 90% of obstructing GS > 2cm in diameter.
- Impaction occurs in:
  - Ileum 60.5%
  - Jejunum 16.5%
  - Stomach 14.2%
  - Colon 4.1%
  - Duodenum 3.5%

Presentation

• Abdominal pain, distention, and vomiting.
• Obstruction 50-70%. Frequently, intermittent. “Tumbling obstruction.”
• Previous hx of gallstone disease did not contribute to diagnosis.

Signs and Symptoms

Early Diagnosis of GSI (n=7)
- Abdominal pain
- Vomiting
- Abdominal distension
- Absolute constipation

Delayed or No Diagnosis of GSI (n=8)
- Diarrhoea
- Fever
- Abdominal tenderness
- Increased bowel sounds
- Jaundice
- Previous gallstones
Radiographic Findings

• Air/contrast in biliary tree.
• Visualization of stone in the intestine.
• Change in position of previously identified stone.
• Partial or complete obstruction.
Other Studies

• Plain X-ray
  – May demonstrate pneumobilia, enterolith.

• US
  – May be useful in identifying fistula or enterolith movement during bowel peristalsis.

• Endoscopy
  – May directly identify fistula.

AXR
CT
Endoscopy
Treatment

• Surgery – enterolithotomy (open vs laparoscopic).

• Inspection of entire bowel (small and large).
  – Multiple stones have been reported in 3-40% of Pts.

• Extracorporeal shockwave lithotripsy successfully employed.

Cholecystenteric Fistula

• 1 Stage – enterolithotomy, cholecystectomy, fistula repair.
• 2 Stage – enterolithotomy.
1 Stage

• Prevents recurrence.
  – Up to 17% have recurrent GSI.
  – Prevents cholecystitis, cholangitis.

• GB Ca higher in Pts with cholecystenteric fistula.

2 Stage

• Most consider enterolithotomy sufficient.
  – Pt population high risk.
  – Recurrence low – less than 5%
  – Reoperation rate less than 10%

• Increased morbidity and mortality.

Take-Aways

- GSI may be the source of unusual presentations of pneumobilia, SBO, or abdominal pain.
- For the typical GSI Pt, enterolithotomy is sufficient.
- Inspect entire small bowel for multiple GS.
References