GI Surgery Review

Surgery for GERD

- Reserved for pts:
  - Complications from GERD
  - Refractory esophagitis**
  - Stricture
  - Barrett’s
  - Persistent “reflux symptoms” despite acid suppression
  - Asthma

** most frequent

Preop Evaluation

- No consensus
- Useful tests in making surgical decisions
  - Egd
  - Esophageal manometry
  - 24-48 hour pH probe

Antireflux surgery

- For most pts with GERD laparoscopic Nissen fundoplication
    - Several advantages with similar efficacy and safety as an open procedure

Post-op Symptoms

- Dysphagia
  - Occurs in most pts
  - dilatation
- Gas bloat
  - Most pt improve over time
  - Mild → simethicone or charcoal tablets, avoid carbonation
  - Trial of metoclopramide
  - Persistent symptoms consider gastroparesis

Long-term efficacy

- Laparoscopic fundoplication
  - 90-95% of patients satisfied with the results
    - Experienced surgeons

Surgery for PUD

Indications

- Failure of non-operative management of ulcer complication
- Suspicion of malignancy (usually gastric ulcer)

Operation for duodenal ulcer

- based on reduction of acid secretion
  - Sectioning of vagus (vagotomy)
  - Eliminating hormonal stimulation from the antrum (antrectomy)
  - Decreasing the number of parietal cells (gastric resection)

Billroth

- I: pyloris removed
- II: greater curvature of stomach connected to the jejunum in end-to-end anastomosis

Operation for gastric ulcer

- Difference from duodenal is that gastric ulcer may harbor malignancy and therefore must be excised or generously biopsied.

Postgastrectomy syndromes

- Postvagotomy diarrhea
- Dumping syndrome
- Alkaline reflux gastritis
- Early satiety

Post vagotomy diarrhea

- 30% of pts
- Most self limiting
- Pathogenesis poorly understood
  - ?rapid passage of unconjugated bile salts
- Oral cholestyramine

Dumping syndrome

- ~20% pts after gastrectomy or vagotomy and drainage
- Symptoms:
  - Postprandial Gi discomfort
  - +/- nausea, vomiting, diarrhea and cramps
  - Vasomotor symptoms
    - Diaphoresis
    - Palpitations
    - flushing

Dumping syndrome

- Precise mechanism not completely understood
- Attributed to rapid emptying of hyperosmolar chyme (particularly carbs) into the small bowel
  - Leads to net fluid retention
  - Leads to vasoactive hormone release
    - Serotonin and VIP

Dumping syndrome

- Treatment
  - Dietary changes
  - Rarely operative therapy needed
  - Octreotide may help with severe symptoms

Gallbladder

Acute cholecystitis

- Typical presentation
  - RUQ pain
  - Fever
  - Leukocytosis
- Associated with gallbladder inflammation,
  - Usually due to gallstone disease
- Complications (can be life-threatening)
  - Gangrene
  - Gallbladder perforation

Acute cholecystitis-treatment

- Supportive
- Antibiotics
  - Secondary infection from cystic duct obstruction and bile stasis
  - Guidelines
    - Start antibiotics if infection suspected based on:
      - Lab (WBC >12,500)
      - Clinical (temp >38.5C)
      - Radiographic findings (air in gallbladder or wall)
      - Advanced age, diabetes, immunodeficiency

Infectious Diseases Society of America

Timing of surgery

- Asymptomatic gallstones should not be treated
- Low risk pts with clinical improvement
  - Elective cholecystectomy same hospitalization
- Low risk pts with deterioration
  - Emergent cholecystectomy
- High risk(ASA 3 and >) mortality 5-27%
  - Clinical deterioration– percutaneous cholecystostomy

Complication of Laparoscopic cholecystectomy

- Serious complications
  - Result in part from patient selection
  - Surgical inexperience
  - Technical constraints of minimally invasive approach

Bile duct injury

- Classified A-E based on type of injury
- Repair should always be approached by an experienced multidisciplinary team
  - Surgeon
  - Diagnostic radiologist
  - Interventional gastroenterologist
  - Interventional radiologist

Biliary leakage

- Suspect in pts with fever, abdominal pain, bilious ascites
- Large loculated collections
    - Percutaneous drainage, with catheter left in place for drainage
    - ERCP: define leak and place stent
- Severe pain, progressive intraabdominal sepsis
    - Operative exploration and washout

Other complications

- Bleeding
- Bowel injury
- Postcholecystectomy syndrome
  - Complex of symptoms including
    - Abdominal pain
    - dyspepsia

Bariatric Surgery

Early Complications

- Bleeding
- Wound infection
- Leaks
- PE/DVT
- CV complications
- Pulmonary complications

Late Complications

Roux-en-Y:

gastric remnant distension
stomal stenosis
marginal ulcers
cholelithiasis
ventral incisional hernia
internal hernia
short bowel syndrome
Dumping syndrome

Stomal stenosis (RYGB)

- 6-20%
- ?etiology
  - Ischemia or increased tension on anastomosis
- Nausea, vomiting, dysphagia, GERD
  - Several weeks after surgery
- Endoscopic balloon dilation usually successful

Marginal ulcers (RYGB)

- 1-16%
- Near gastrojejunostomy
- Causes
  - Poor perfusion, foreign material (staples), excess acid exposure, NSAIDs, H.pylori, smoking
- Nausea, pain, bleeding or perforation
- Tx: acid suppression +/- sucralfate (95% successful)

Post Op Ileus

Definition

- Transient inhibition of normal GI motility in the post op setting.
- Presumably, the muscle of the bowel wall is transiently impaired and fails to transport intestinal contents.
- Typically lasts 3-5 days.

Clinical Consequences

- Worse pain
- Nausea and vomiting
- Delay in enteral nutrition
- Prolonged hospitalization
- Increased risk of complications
- Increased health care costs

Pathophysiology

- Poorly understood

1. Neural reflexes involving the sympathetic nervous system may inhibit motility
    1. Epidural anesthetic agents decreased duration of post op ileus.
    2. ? Due to blockade of neural reflexes at the spinal cord level.

Pathophysiology

2. Local and systemic inflammatory mediators may play a role.
   1. NSAIDs decrease POI

Pathophysiology

3. Exacerbating factors
   1. Opioid analgesics
   2. Intraperitoneal surgery
   3. Degree of bowel manipulation
   4. Open vs. laparoscopic surgery
   5. hypokalemia

Clinical Presentation

- Abdominal pain
- Nausea/vomiting
- Anorexia
- Abdominal bloating/distension
- Absent bowel sounds
- Lack of passage of flatus or stool
- Tympanic abdomen
- No visible peristalsis

Clinical Presentation

- Pain is typically mild and constant
  - Mechanical obstruction usually severe

Physical exam

- Lack of bowel sounds
- Increase abdominal girth
- Lack of visible peristalsis
- Tympanic abdomen
- Xray: air-fluid levels or nonspecific patterns

Treatment

- Most cases
    - Watchful waiting and supportive care
    - Hydration
    - If nausea and vomiting--NGT

Treatment-Pharmacologic

- Metoclopramide, cisapride, erythromycin
  - RCT don’t show benefit
- Laxatives
  - Possible benefit
- Opiate antagonists
  - May show benefit, but more studies needed

Treatment-Pharmacologic

- Epidural anesthesia
- NSAIDs
  - Probable benefit
  - Need to be cautious of SE
- Multimodality therapy

Treatment-Nonpharmacologic

- Nasogastric tube
  - No evidence of benefit, may increase pulmonary complication.
- Early enteral nutrition
  - Appears safe and well tolerated.
- Early mobilization
  - No change, but may decrease other complication
- OMM
- Chew gum

Thank You
Good Luck!