Endoscopy in the Post Bariatric Surgery Patient

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Endoscopy after bariatric procedure

• Indications:
  – Routine: nausea and vomiting, dysphagia, abdominal pain, anemia, intestinal bleeding
  – evaluation of anastomotic leaks and fistulae
  – ERCP or EUS
  – weight gain/weight loss
• Preparing for endoscopy
  – Review surgery records
  – Understand expected anatomy and the anticipated findings
  – Plan appropriate sedation
Post RYGPS anatomy at endoscopy

• Esophagus: normal
• Stomach: post-surgical changes
  – gastric pouch, about 15cc
  – staple lines; one vertical and the other transverse
  – Gastroenterostomy, usually with a circular stapler to the side of the jejunum (‘roux’ limb).

Step-wise exam

• Anastomosis: usually evident, but can be a pin hole
• Staple lines: inspect its entirety, look for identify dehiscence/fistulae.
• Attention to upper corner
• Anastomotic ring: ulceration, fistulae
  • often hide just behind the anastomotic ring
Step-wise exam

• Past the GJ anastomosis:
  – two luminal paths
    • one short blind limb and the other to the ileum
  – retroflex to examine the distal aspect of the anastomosis.
  – Blind limb: evidence of ischemia, length of the blind limb
  – Roux limb: enteroenteral anastomosis, within reach of Ped Colon scope

Endoscopy after lap band

• Esophagus: Normal
• Stomach: narrowing about 3-4 cm from GEJ.
  • Main gastric cavity is beyond this.
• There are two major brands of bands [Lap Band© manufactured by Allergan and Realize Band© (lower profile) manufactured by Ethicon] which are currently approved by the FDA.
Step-wise exam

• Distance of the band
  – ? Migration: slipped band

• Restrictive effect
  – Need tightening/loosening

• Ulceration / erosion

Strictures

• GJ Anastomotic stricture:
  – Common cause of symptoms
  – Assess size of lumen, presence of ulcerations, size of pouch

• Readily treated with endoscopic balloon dilation
  – 1-3 sessions required
  – Goal 15mm
  – Remove staples and suture material

• Resistant strictures
  – Associated with ulcerations, fistulae and post-surgical leaks
  – Acid peptic strictures with large gastric pouches
**Strictures**

- Enteroenteral: anastomotic stricture  
  - Balloon dilation
- Extrinsic stricture: at the mesocolon with retrocolonic anastomosis  
  - Can be dilated using a large caliber TTS balloon successfully.

**Anastomotic ulceration**

- Etiology:  
  - Gastric acid  
  - Ischemia, associated with smoking
- Treatment  
  - Difficult to treat  
  - Cessation of smoking  
  - PPI therapy and sucralfate  
  - Removal of foreign body  
  - These ulcerations can cause perforation and may require surgical therapy.
Post-operative leaks

• 1-6% of RYGBS
• 3/4ths at GJ anastomosis: under most tension
• Any of the staple lines can leak:
  – gastric staple lines
  – end of the blind loop
  – enteroenterostomy site
  – gastric remnant staple line

Diagnosis of leaks

• Only manifestation may be tachycardia
  • Classic symptoms of a perforation may be absent
• Diagnostic imaging:
  • Poor quality due to morbid obesity
• Interventions based on local expertise
  – Clips, endoscopic stenting and suturing
  – Fully covered esophageal stents: for 2-8 weeks
  – Reoperation: if signs of sepsis
    • Recurrent leaks can still occur post-procedure.
  – Drain fluid collections or abscesses endoscopic or percutaneous routes
Anemia and GI bleeding

- Etiology
  - Deficiencies of iron or vitamin B12 or folic acid
    - Replacement therapy
    - Yearly intravenous iron may have to be considered
  - Blood loss
    - Ulcerations: anastomotic, gastro duodenal
    - Other causes of bleeding

- Evaluation
  - Deep enteroscopy and with retrograde advancement into the gastric remnant
**ERCP**

- Needs experienced endoscopist
  - Duodenum cannot be reached in every patient
  - Success depends on length of roux limb
    - Ligament of Treitz to the duodenum ~ 150 cm: success >90%
  - Other challenges
    - Cannulation with non-side viewing scope
    - Limited accessories
    - 7 Fr stent can be placed
- Trans gastric surgically assisted ERCP
  - Ligament of Treitz to the duodenum ~ 200 cm
  - If a cholecystectomy is indicated

**EUS of the pancreas**

- Safe despite altered anatomy
  - Part of the pancreas (body and tail) can be evaluated from the jejunum
  - The collapsed gastric remnant can be a landmark
  - The head of pancreas and bile duct may be difficult
- Trans-colonic evaluation possible
  - Rarely complete
**Eroded lab band**

- **Signs of gastric erosion**
  - Percutaneous access site infection
  - Need for overfilling the band
- **Endoscopic removal**
  - The externalized access tube exposed and divided
  - The eroded part of the band is identified and cut
    - Guide wire is passed through the lumen of the band and looped
    - Lithotripter sheath is adapted to cut the band
    - Bisect the band inside stomach: easier removal
- **Laparoscopic removal**
  - If endoscopic removal is unsuccessful

**Enteral feeding access**

- **If gastric remnant can be reached:**
  - A PEG tube, pull or push technique
- **If gastric remnant cannot be reached:**
  - Combined interventional radiology approach
    - Scope is advanced into the duodenal limb
    - Insufflate to allow retrograde filling of the stomach
    - A push PEG is placed
  - Direct radiography assisted PEG
    - Often difficult: collapsed stomach
  - Percutaneous jejunal feeding tube
Accessing the stomach
Other therapeutic procedures

• Tightening the gastroenteral anastomosis
  – A planning endoscopy
    • Access the size of the pouch, orientation of the anastomotic ring, presence of ulcerations
  – Accomplished using
    • Suturing devices, sclerosant injection, or over the scope clips

• Reversal of the gastric bypass
  – EUS guided trans-pouch access and creation of a gastro-gastric conduit

Thank you for your attention

Questions?