OBJECTIVES

- Review common emergencies in gastroenterology
- Identify patients that require early GI consultation
- Review initial management of common GI emergencies
A 28-year-old man presents with absolute dysphagia after eating steak. He has a history of eczema and asthma. In the ER, his vital signs are stable but he is unable to swallow his secretions and is retching into a spit bowl. What would you do next?

- Admit and consult Gastroenterology the next day as patient is stable.
- Barium esophagram
- Speech evaluation to evaluate swallow
- CT scan of neck and chest
- Consult Gastroenterology for esophagogastroduodenoscopy (EGD) with anesthesia support for airway protection.

**FOOD BOLUS**

- Typical in patients with preexisting esophageal conditions
  - EoE, tumors, achalasia, rings, strictures
- Mentally impaired
- Edentulous
**CLINICAL PRESENTATION**

- Dysphagia
- Odynophagia
- Inability to swallow saliva
- Neck discomfort
- Hypersalivation/drooling

**CLINICAL DIAGNOSIS**

If bones involved, obtain plain X-rays!

**POTENTIAL COMPLICATIONS OF A FOOD BOLUS**

- Aspiration
- Lacerations
- Bleeding
- Ulcer formation
- Perforation
FOOD BOLUS/FOREIGN BODY MANAGEMENT

Administration of glucagon 1 mg IV can be attempted for food bolus.

Who requires emergent endoscopy (within 12 hours)?
- Complete obstruction (inability to handle secretions)
- Disk batteries in esophagus
- Sharp pointed objects in esophagus

AIRWAY PROTECTION

Who requires endoscopy within 24 hours?
- Non-sharp pointed esophageal foreign objects
- Esophageal food impaction without complete obstruction
- Sharp pointed object in stomach or duodenum
- Objects >6 cm in length or above the duodenum
- Magnets

If food bolus resolves spontaneously, bring back your patient at a later date for EGD, biopsies and motility studies if necessary.
FOOD BOLUS/FOREIGN BODY MANAGEMENT

- Who will need non-urgent endoscopy?
  - Blunt objects in stomach >2.5 cm in diameter.
  - Batteries in the stomach in asymptomatic patients (observe 48 hours)
  - Blunt objects in stomach that fail to pass after 3-4 weeks
  - Blunt objects distal to duodenum in same location after 1 week.

ESOPHAGEAL FOOD IMPACTION

- Typical in patients with preexisting esophageal conditions such as GERD or eosinophilic esophagitis. Also common in edentulous and mentally impaired patients.

  - Dysphagia, odynophagia, inability to swallow saliva, neck discomfort.
  - X-rays only if bones are swallowed, otherwise a clinical diagnosis
  - Can attempt 1 mg of glucagon IV.
  - Can lead to aspiration, esophageal necrosis and perforation.
  - EGD ASAP if complete obstruction or bones in the esophagus
CAUSTIC INGESTION

- Usually in children, psychiatric or suicidal patients.
- Alkali: More esophageal damage (liquefactive necrosis) within seconds.
  - Drain cleaners
- Acid: More damage to stomach, rather than esophagus. It will cause pain when you drink it, therefore typically less amount ingested.
  - Toilet and swimming pool cleaners.
  - Bleach is weak acid (5% acid)

CAUSTIC INGESTION MANAGEMENT

- ICU setting
- Airway
- NPO
- Radiographs
- Intravenous fluids and blood products as needed
- PPI to prevent stress ulcers
- Pain control
- Surgical consultation if concern for complications
- Antibiotics if Grade 3 injury or above.
CAUSTIC INGESTION MANAGEMENT NO NO’S

- Don’t induce vomiting
- Don’t use neutralizing agents, can worsen the damage
- Don’t place NG tube to remove remaining caustic agent

What’s is the role of endoscopy?
- EGD should be performed within 24 hours if no perforation
- Evaluate extent of damage, establish prognosis and guide therapy.
CAUSTIC INGESTION MANAGEMENT

- Grade 0 – Normal
- Grade 1 – Mucosal edema and hyperemia
- Grade 2A – Superficial ulcers, bleeding, exudates
- **Grade 2B – Deep focal or circumferential ulcers**
- Grade 3A – Focal necrosis
- Grade 3B – Extensive necrosis

- Patients with mild or no injury can be discharged
- 1 or 2A require no therapy → Start liquid diet and advance in 24-48 hrs
- 2B or 3 → NGT feeding after 24 hours.
- Grade 3 injury requires at least 1 week of observation
A 75-year-old woman presents with melena, hematemesis, and syncope. Examination reveals hypotension and tachycardia. What is the first step in management?

- Fluid resuscitation is the first step in management.
- PRBC transfusions if needed and correction of coagulopathy if present
- Anti secretory medications
- Octreotide and antibiotics if variceal bleeding is suspected: thrombocytopenia, splenomegaly, spider nevi, ascites, jaundice
- In general, EGD should be done 12-24 hours from time of presentation. Studies have shown worse outcomes for early endoscopic intervention likely secondary to inadequate resuscitation.
A 55 year old female with known cirrhosis from alcohol presents with recurrent hematemesis. She has a history of recurrent hematemesis from esophageal varices and has undergone several endoscopies with banding of varices. Unfortunately she continues to drink and is not compliant with medications. Now EGD is remarkable for large grade 3 esophageal varices with red spots that are successfully banded. She is now awake and alert in the ICU and feels well. She is hemodynamically stable and her MELD sodium score is 8.
The AASLD recommends patients with cirrhosis who survive an episode of active variceal hemorrhage should receive therapy to prevent recurrence of variceal hemorrhage.

Combination of nonselective beta blockers plus endoscopic variceal ligation is the best option for secondary prophylaxis of variceal hemorrhage.

Transjugular intrahepatic portosystemic shunts should be considered in patients who have Child A or B cirrhosis and experience recurrent variceal hemorrhage despite combination pharmacologic and endoscopic therapy.

Patients who are otherwise transplant candidates should be referred to a transplant center.
A 72-year-old woman with type II diabetes presents to the hospital with fatigue, dyspnea on exertion, and acute anemia after several episodes of hematochezia. She is volume resuscitated and undergoes an urgent colonoscopy after a negative EGD. What is the most likely endoscopic finding?

- Diverticulosis
- Angioectasias
- Hemorrhoids
- Ischemic colitis
- Peptic ulcer

**GI BLEEDING**

- Resuscitation in first step in management as well.
- Rule out upper GI bleeding first: hemodynamic instability and an elevated blood urea nitrogen (BUN)-to-creatinine >20 to 30:1
- PRBC transfusions if needed and correction of coagulopathy if present
- Colonoscopy after bowel preparation
**ACUTE LOWER GI BLEEDING**

- Passage of maroon or bright red blood and clots per rectum
- Most events are self limited
- Normocytic red blood cells indicate acute episode, don’t be misled by baseline Hgb at time of presentation.
- Brisk upper GI bleeding: Hematemesis, BUN:Cr <30:1

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**ETIOLOGY**

Diverticular (most common)
Vascular (angioectasia, ischemia)
  - Anorectal disease
  - Inflammatory
  - Neoplastic
  - Post polypectomy
Upper GI bleeding (10 – 15%)

INITIAL EVALUATION

- H&P: anticoagulants, NSAIDs, hematemesis, prior bleeds, other symptoms and comorbidities. Don't forget the DRE.

- Baseline labs including CBC, renal function, PT/INR, type and cross

- Is this an emergency?
  - Mild to moderate hypovolemia: resting tachycardia
  - 15% blood loss: orthostatic hypotension
  - 40% blood loss: Supine hypotension


INITIAL MANAGEMENT → RESUSCITATION IS #1

- Fluids
- Blood products with goal Hgb >7 g/dL (higher if comorbidities)
- Management of coagulopathy:
  - INR >1.5 → give FFP (prefer INR <2.5 for endoscopy)
  - Platelets <50,000 → give platelets
  - Stop aspirin (primary prevention)

- DAPT should not be stopped in the following:
  - ACS in preceding 90 days
  - Bare metal stent in preceding 6 weeks
  - DES in preceding 6 months

ASGE Standards of Practice Committee. The management of antithrombotic agents for patients undergoing GI endoscopy. Gastrointest Endosc. 2016 Jan;83(1):3-16
FURTHER EVALUATION → CHOICE OF THERAPEUTIC APPROACH IS #2

Option #1. If severe bleeding continues → Angiography for localization and treatment.
   1a. If source not identified → Colonoscopy

Option #2. If bleeding is slowing down → Start with colonoscopy for localization and treatment within 24 hours.

“If no source identified so far and negative EGD, patient will need evaluation for small bowel bleeding”


BOWEL PREP FOR BETTER VISUALIZATION

• 4-6 liters of polyethylene glycol over 3-4 hours.
• NG tube can be used if high risk of aspiration or if unable to take it.
• Expect more blood to pass, but this does not mean more bleeding due to bowel prep.
• Colonoscopy should include terminal ileum intubation
• Definite or potential bleeding source is visualized in 45 to 90%

**ANGIOGRAPHY**

- Active bleeding loss of 0.5 to 1.0 mL/min
- SMA → IMA → Celiac
- Accurate localization
- Embolization to treat
- Bleeding successfully controlled in 97% of cases
- Last resort is surgery


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*Same patient:* Colonoscopy is remarkable for pancolonic diverticulosis but no active bleeding is noted. She is discharged two days later but over the course of the next 2 months is admitted three times with recurrent hematochezia and undergoes repeated EGD and colonoscopy with the same findings. Her bleeding has again stopped spontaneously and is about to be discharged home soon. What would you recommend if she is admitted with recurrent hematochezia again?
• Physiologic or mechanical
• Acute or chronic
• Colorectal malignancy, volvulus, adhesions, diverticular disease, incarcerated hernia
• Differential: Small bowel obstruction, Pseudo-obstruction, toxic megacolon

Patients with acute obstruction will develop symptoms over the course of avg 5 days.
• Distention
• Abdominal pain
• Obstipation
• Nausea and vomiting may be present
• Signs and symptoms of ischemia or perforation
DIAGNOSIS

- For hemodynamically stable patients without symptoms or radiographic signs indicating the need for immediate intervention.
- Obtain abdominal CT
  - Highly sensitive and specific
  - Helps distinguish from other causes
  - Diagnose etiology

QUESTION

An 88 year old lady presents with vomiting and acute abdominal pain after a 2 month history of change in bowel habit. She has not had a bowel movements in 2 days but is passing flatus. On exam she has a markedly distended abdomen with right lower quadrant tenderness without guarding and high pitched bowel sounds. CT scan is remarkable for a dilated colon with a cecal diameter of 8cm and a suspected stricture in the sigmoid colon. A colonoscopy 5 years ago was remarkable for a small cecal polyp and sigmoid diverticulosis.
MANAGEMENT

- Supportive care: NG decompression, IVF and correction of electrolytes.
- Endoscopic decompression of sigmoid volvulus or stenting of a malignant obstruction.
- Approximately 75% of patients will require surgery.

A 36-year-old woman with a history of ulcerative pancolitis diagnosed when she was 20 years old presents to the emergency room with bloody diarrhea, fever of 101 degrees Fahrenheit, and Hgb of 6.7 g/dL (12-16 g/ dL). She has been at home on prednisone 50 mg daily for one week with slight decrease in bowel movement frequency over the last 2 days. She has been on hydrocodone-acetaminophen 5/325 which she takes about five times per day. Abdominal flat plate reveals a transverse colon diameter of 8 cm with “thumbprinting” and “mucosal islands.”

What would you do next?

Start intravenous ciprofloxacin and metronidazole. Pain management with hydromorphone 3 mg IV every 4 hours.

Keep patient NPO with aggressive IV hydration. Perform a colonoscopy with biopsies the next morning.


Start Cyclosporine continuous infusion. If no response within 5 days of treatment consult the surgeons for colectomy.

Start treatment with infliximab. If no response after the first infusion of infliximab, start Cyclosporine
**TOXIC MEGACOLON**

- **Colonic dilation + systemic toxicity**
- Mostly seen in IBD patients and C diff infection.
- May be precipitated by electrolyte imbalance, opiates, antimotility agents, anticholinergics.
- Severe bloody diarrhea most common presenting symptom followed by improvement.

**DIAGNOSIS**

- Radiographic evidence of colonic distention
- **Plus** three or more of the following:
  - Fever >38 C
  - HR >120 beats/min
  - Leukocytosis >10 500/microL
  - Anemia
- **Plus** one or more of the following:
  Dehydration, AMS, electrolyte disturbance, hypotension.

MANAGEMENT

- Bowel rest, IVF and electrolyte correction
- NG decompression
- Enteral nutrition as soon as improvement is noted.
- Stop all antimitility agents
- Broad spectrum antibiotics or C diff therapy
- High dose IV steroids for IBD patients
- Surgery if no improvement in 48 – 72 hours

Sheth SG, LaMont JT. Toxic megacolon. Lancet. 1998;351(9101):509

A 33 year old lady 4 weeks post partum after a cesarian section presents with right upper quadrant pain, fever of 101 F and jaundice. WBC 17, with left shift AST 400, ALT 455, Bilirubin 3.5. Abdominal ultrasound scan shows numerous gallstones and dilated...
ACUTE CHOLANGITIS

Develops as result of stasis and infection in the biliary tract.

- E. coli, Klebsiella and Enterobacter
- Biliary calculi, benign stenosis, malignancy, stent insertion/blockage

DIAGNOSIS

Charcot's triad: Fever, jaundice and abdominal pain (50 - 75%)

- Reynolds Pentad: encephalopathy and hypotension
- Leukocytosis, cholestatic pattern of liver tests abnormalities
- Send for blood cultures
- Abdominal US: Common bile duct dilation/stones (10-20% negative)
**Management**

- **Fluids and treatment of sepsis**
- **Empiric broad spectrum antibiotics, then tailored to blood culture results**
- **80% patients will respond to the above, ERCP within 48 hours.**
- **ERCP for biliary drainage**

**Urgent Biliary Decompression**

- Persistent abdominal pain
- Hypotension despite adequate resuscitation
- Fever greater than 102F
- Confusion

- If ERCP not feasible → percutaneous or surgical decompression
A 66 year-old woman was admitted to the hospital with acute gangrenous cholecystitis and undergoes emergent open cholecystectomy. Four days later, she continues to have diffuse severe abdominal pain and low-grade fever. Bilious appearing fluid was noted in her surgically placed JP drain. A CT scan showed a large collection of free fluid in the right lower quadrant.

What is the next step in this patient's management?

- Repeat surgical exploration
- Begin antibiotics with close observation
- ERCP
- Perform a diagnostic paracentesis
- Repeat imaging in 3 days
BILE LEAK

Complication of cholecystectomy

Overall incidence of 0.6% in recent studies.

Not all leaks are significant and are self limited

CLINICAL PRESENTATION

Patients usually present in the first few weeks post op.

High output from surgical drain

Abdominal pain, fever, distention, jaundice
**DIAGNOSIS**

- US and CT scan usually confirm, but do not rule out
- HIDA scan can be useful.
- ERCP can delineate site of leak in 95%

**MANAGEMENT**

- ERCP with transpapillary stent placement without or without spincterotomy with goal of directing bile flow into the duodenum.
REFERENCES

- ASGE Standards of Practice Committee. The management of antithrombotic agents for patients undergoing GI endoscopy. Gastrointest Endosc. 2016 Jan;83(1):3-16