GI Bleed

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- Bleeding that originates proximal to the ligament of Treitz
- Ligament of Treitz inserts from the diaphragm into the 3rd and 4th portions of the duodenum
- All bleeding distal to this has historically been called lower GI bleeding
- Recently, the term “mid GI bleeding” has been proposed to describe small bowel bleeding distal to the ampulla of Vater in 2nd portion

- Annual incidence of 1 per 1000 people resulting in 300,000 hospitalizations per year
- 45% of patients over 60 years old—worse prognosis
- Mortality of 3.5%-10%--only slightly diminished over the past 30 years—due to older age and multiple comorbidities
- Therapeutic endoscopy has led to decrease in blood transfusions and need for surgery

- Hematemesis
- “Coffee ground” emesis
- Red blood from NG aspirate
- Melena—50-100 cc of blood enough to cause
- Hematochezia—signifies very brisk UGIB—18% mortality, 29% if NG with red blood
- Hypotension/Shock prior to expulsion of blood

- Assess Hemodynamics
- Resuscitation
- History and Physical (RECTAL EXAM MANDATORY!!)
- NG tube
- Labs
- Pre-endoscopic Medical Therapy
- Triage—Discharge vs. Floor/Tele vs. ICU

- Hypotension/orthostasis indicates a 20% loss of blood volume
- Tachycardia not always present—β-blockers, calcium channel blockers
- Hemodynamic instability needs to be addressed immediately
- Consider intubation for massive hematemesis, decreased level of consciousness

- Stabilization key prior to endoscopy
- 2 large bore IVs, crystalloid resuscitation
- Supplemental O2
- Intubation for active hematemesis, hypoxia, tachypnea, or altered mental status
- NPO
- Consider A-line, PA catheter, Foley catheter

Packed Red Blood Cells

- Restrictive transfusion to hemoglobin of 7 associated with better outcomes than transfusing to higher hemoglobins. Especially true in variceal bleeders.
- Certain populations (severe CAD for example) may require higher hemoglobin goals

Other Blood Products

- FFP
  - Transfuse to INR 1.5 if possible
- Platelets
  - Transfuse to greater than 50K
- DDAVP
  - Possible role in ESRD patients
- Activated Factor VII, APCC
  - May improve outcomes over FFP
  - May help reverse effects of Direct Oral Anticoagulants

- Bleeding manifestation (melena, hematemesis, etc…)
- GI symptoms—vomiting, stool character, abd. pain
- Cardiac symptoms
- Prior history of GI bleeding—60% from same lesion
- History of liver disease
- Comorbidities
- Alcohol and smoking history
- Prior H. pylori infection/therapy?
- Gastrotoxic medications---NSAIDs, Aspirin, Caustic ingestions
- Anticoagulants—Plavix, Coumadin, Xarelto, etc…

Hemodynamic stability

- Tachycardia, thready pulse
- Hypotension
- Orthostatic hypotension
- Hypoxia

Signs of shock

- Cold clammy extremities
- Poor mentation

Careful abdominal examination

- Bowel sounds
- Abdominal tenderness
- Ascites, shifting dullness

Signs of chronic liver disease or portal HTN

- Hepatomegaly
- Splenomegaly
- Palmar erythema
- Caput medusa
- Spider angiomata
- Peripheral edema

Rectal examination

- Occult blood—describe stool color/character
- Gross blood
- Bright red blood per rectum
- Melena
- Burgundy stools
- Blood coating stools versus within stools
- Bloody diarrhea

- Presence of BRB identifies patients with high risk bleeding—all other findings less helpful
- About 15% of may have negative NG return
- Usually indicates duodenal source
- Bilious aspirate may have better NPV
- May help clear stomach for endoscopy
- May help prevent aspiration
- Suspected varices NOT a contraindication

- Mortality based on NG tube findings with melena:

--Clear: 5%

--Coffee Grounds: 8%

--Fresh Blood: 12%

NOT CONCERNED WITH GASTROCCULT

- Hemoglobin/Hematocrit
- BUN/Cr
- Cardiac enzymes—esp. with massive bleeding
- LFTs
- Coagulation parameters
  - PT
  - PTT
  - Platelets (<88K in cirrhotics suggests varices)

- Discharge
  - Normal BP and pulse
  - Normal hemoglobin and BUN
  - Absence of melena
  - No significant comorbidities
- ICU
  - Hemodynamic instability
  - Worrisome labs
  - Comorbidities
- Floor/Tele
  - Everything in between

- PPI
  - Increases gastric pH allowing for clot stabilization
  - Reduces rate of high-risk stigmata at endoscopy and need for endoscopic therapy
  - No decrease in mortality, rebleeding, or progression to surgery
  - Continuous IV infusion for 72 hours after endoscopic therapy given for high risk stigmata

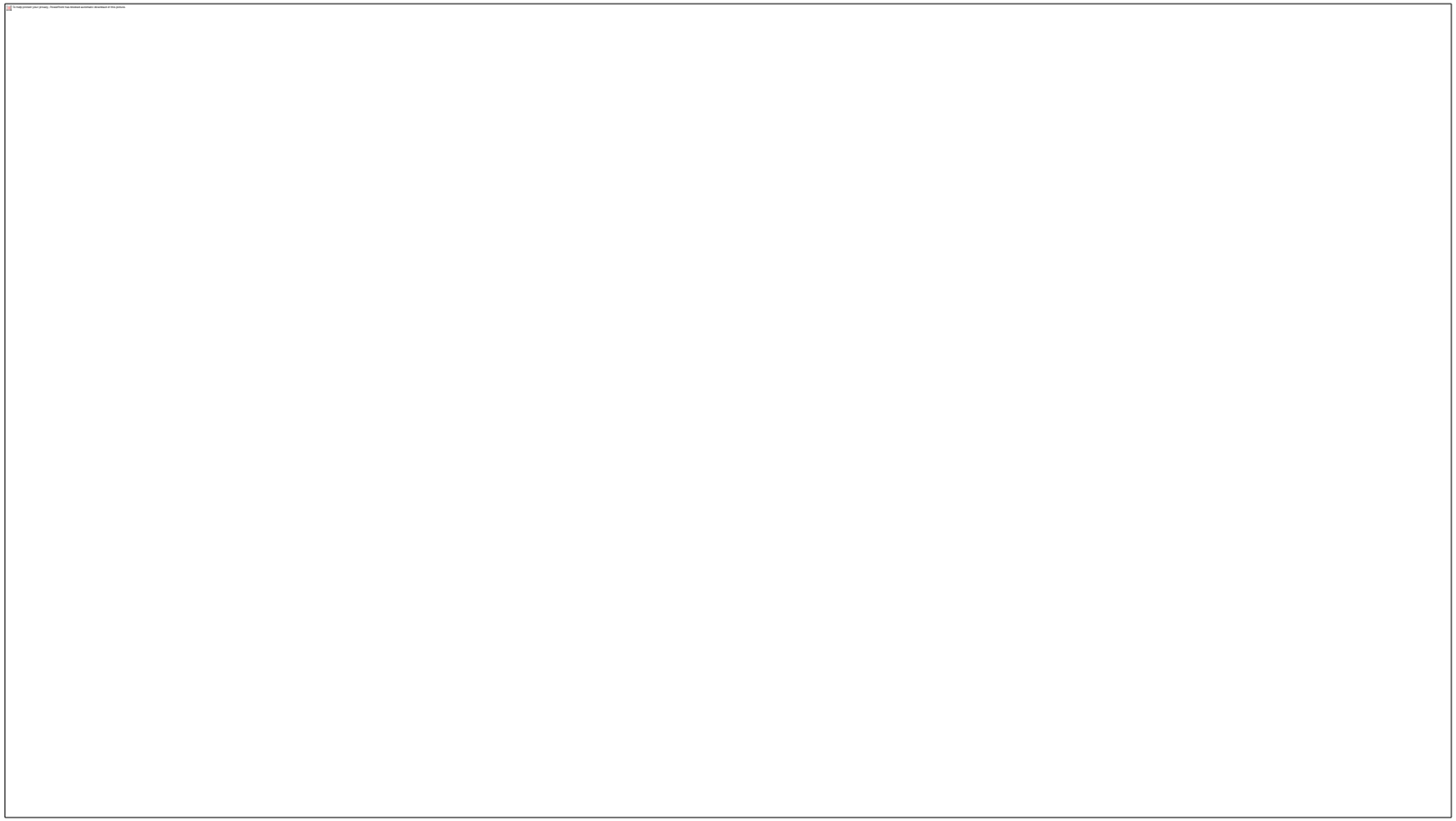
- Octreotide
  - Somatostatin analog
  - Inhibits mesenteric vasodilation
  - Initiate in patients with significant liver disease, a history of variceal bleeding, a history of alcoholism, or patients with significantly abnormal liver chemistries
  - 50 mcg bolus followed by 50 mcg per hour gtt

- Antibiotics
  - Ceftriaxone 2 g IV should be administered to all patients with cirrhosis who present with GI bleeding

- Prokinetic Agents
  - IV erythromycin or metoclopramide administered 30-90 minutes prior to EGD reduces the need for repeat EGD to determine the site and cause of the bleed
  - No outcome on duration of hospitalization, transfusion requirements, or need for surgery
  - Recommended for those who are suspected of having fresh blood or a clot in the stomach

Common Causes

- Peptic ulcer disease
- Esophageal and gastric varices
- Hemorrhagic gastritis
- Esophagitis
- Duodenitis
- Mallory-Weiss tear
- Angiodysplasia
- Upper gastrointestinal malignancy
- Anastomotic ulcers (after PUD surgery or bariatric surgery)
- Dieulafoy lesion



Less Common Causes

- Cameron lesion
- Gastric antral vascular ectasia (watermelon stomach)
- Portal hypertensive gastropathy
- Post chemotherapy or radiation sequelae
- Gastric polyps
- Aortoenteric fistula
- Submucosal lesion/mass (eg, leiomyoma)

Less Common Causes (cont.)

- Hemobilia
- Hemosuccus pancreaticus
- Kaposi sarcoma
- Foreign bodies
- Postprocedural: nasogastric tube erosions, endoscopic biopsy,
- endoscopic polypectomy, EMR, endoscopic sphincterotomy