GASTROINTESTINAL BLEEDING

(Last updated 08/06/2019; Reviewers: Kirtivardhan Vashistha, MBBS)

PRESENTING COMPLAINT: Frank bloody or coffee-ground vomit, black tarry stools or frank blood through rectum, abdominal pain, syncope, weakness

FINDINGS

- A Check airway for obstruction/choking due to blood/vomitus
- **B** ↑ RR, respiratory distress, use of accessory muscles
- **C** ↑ HR, ↓ BP, Orthostatic positive, Weak pulse,
- **D** Variable altered (V,P,U,D)*
- **E** Diaphoresis, signs of trauma/bleeding, ecchymosis, pallor, cold extremities, Skin mottling
- **Lpc** ↓ Hb, ↓ Platelet count, ↑ PT/INR
- **Upc** Nonspecific, Free fluid/air in abdomen, ascites, distended viscera

***V** (verbal), **P** (pain), **U** (unconsciousness), **D** (delirious)

Upc (point of care ultrasound) **Lpc** (point of care labs)

OTHER HISTORY: H/o gastritis, peptic ulcer disease, GERD, cirrhosis, alcohol abuse, malignancy, aspirin/NSAID use, repeated vomiting (Mallory-Weiss), recent upper GI or aortic surgery, immunosuppression/ HIV infection, malignancy, diarrhea or constipation, abdominal or rectal pain, weight loss, abdominal mass

DIFFERENTIAL DIAGNOSIS:

Upper GI bleed: Esophageal causes- esophageal varices/lesions, esophageal tear, esophagitis**;** Gastroduodenal causes-erosive gastritis or peptic ulcer disease, portal hypertensive gastropathy, gastric tumors, gastric vascular abnormalities, aortoenteric fistulas

Lower GI bleed: GI tumors, vascular abnormalities/lesions, inflammatory bowel disease, diverticulosis, colitis, hemorrhoids, rectal varices

OTHER INVESTIGATIONS

- **Labs:** Complete blood count, Coagulation studies (INR/PTT), blood type, crossmatch, LFTs, - Diagnostic gastric lavage via NG/OG tube (unless varices strongly suspected), Serum chemistries, ECG, Cardiac enzymes with CVD risk
- **Monitor:** Hemodynamic & respiratory status
- **Imaging:** Endoscopy (esophagogastroduodenoscopy, colonoscopy), CT angiography or scintigraphy (lower GIB); digital subtraction angiography if embolization planned or likely

THERAPEUTIC INTERVENTIONS

- **General:**
  - **Resuscitation**
  - Early consultation for endoscopy, interventional radiology and/or surgery
  - **Transfusion:** Activate hospital massive hemorrhage protocol if available; correct anemia, (consider RBC transfusion for Hb < 7g/dL), thrombocytopenia (platelets < 50 G/L), coagulopathy (INR >1.5, PTT >50 sec), hypothermia (body temperature >35°C), acidosis (pH >7.3), hypocalcemia (if massive transfusion)
  - Reverse effects of anticoagulant drugs
  - Tranexemic acid 1-2 grams
  - Consider **endotracheal intubation** if aspiration risk, respiratory failure, severe hemodynamic instability, or borderline respiratory or hemodynamic status and planned endoscopy
  - In exanguinating variceal bleeding consider balloon tamponade;
- **Medications**:
  - Peptic ulcer: high dose proton pump inhibitor (omeprazole or pantoprazole) IV; bolus may be as good as continuous infusion (PMID:25201154)
  - Varices: vasoactive drug therapy (terlipressin/ octreotide/somatostatin; alternative: vasopressin)
  - Antibiotic prophylaxis in any patient with cirrhosis and GI hemorrhage: Norfloxacin or ciprofloxacin; IV ceftriaxone in patients with advanced cirrhosis
- **Early endoscopic intervention (<24h):**
  - Upper GI Bleeding: Consider prokinetic agents (erythromycin/metoclopramide) if suspected fresh blood or clot in the stomach, in patients who are likely to have a large amount of blood in their stomach, such as those with severe bleeding. (30-90 minutes prior to endoscopy)
  - Clipping/injection/cautery/band ligation therapy +/- combination
  - **If endoscopic hemostasis not successful or feasible:**
    - Lower GI bleeding: angiography to localize bleeding, followed by surgical consultation
    - Esophageal varices: balloon tamponade (Sengstaken-Blackmore/Minnesota tubes) or transjugular intrahepatic portosystemic (TIPS) shunts in selected patients
    - Upper GI Bleeding: Consider emergent interventional radiology (embolization) or surgery

ONGOING TREATMENT

- **Further Labs:** repeat blood count and coagulation testing, blood gas including lactate, consider Helicobacter pylori testing in patients with erosive gastritis or peptic ulcer disease, if ascites consider paracentesis to rule out spontaneous bacterial peritonitis

- **Monitor:** hemodynamic and respiratory status, urine output: resolution of shock
- **Further Interventions/Treatments:**
  - Repeat endoscopic therapy if needed
  - **Peptic ulcer:** high-dose intravenous proton pump inhibitor during 72h, consider empirical eradication therapy for suspected Helicobacter pylori infection (e.g. in duodenal ulcer disease)
  - **Varices:** vasoactive drug therapy (terlipressin or octreotide/somatostatin) for 3-5 days
  - **If cirrhosis:** prophylactic antibiotics and lactulose (via nasogastric tube and/or enema)
  - Consider TIPS for persistent bleeding
  - **Restrictive red blood cell transfusion** (hemoglobin >7 g/dL) unless shock

REFERENCES & ACKNOWLEDGMENTS

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