II. Acute Gastrointestinal Bleeding:

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Learning objectives

Knowledge

Subinterns should be able to:

1) Describe common causes for acute gastrointestinal bleeding in the hospitalized patient including:
   a) Upper GI bleeding (varices, Mallory-Weiss tears, peptic ulcer disease and gastritis)
   b) Lower GI bleeding (diverticular disease, arterial venous malformations, infectious diseases, colorectal carcinoma, hemorrhoids and inflammatory bowel disease)
2) Describe the contribution of co-morbidities, medications, reasons for hospitalization, recent or remote surgical procedures in the differential diagnosis for the inpatient with acute GI bleeding
3) Delineate appropriate resuscitative measures
4) Understand the role of therapeutic endoscopy in upper GI bleeds
5) Understand the indications for using blood products
6) Describe the appropriateness of interventions for localization of lower gastrointestinal bleeding
7) Recognize situations in which it is necessary to seek support from resident emergently.
8) Recognize indications for transfer to higher care units (e.g. the intensive care unit).

Skills

Subinterns should demonstrate the ability to:

1. Conduct a targeted history & focused chart review.
2. Evaluate the patient for clinical stability; potential source of the abdominal pain and for the presence of any peritoneal signs.
3. Develop a management plan:
   a. Provide appropriate resuscitative measures
   b. Order appropriate laboratory and radiologic studies for the patient
   c. Perform nasogastric lavage on a patient with a suspected upper gastrointestinal bleed
   d. Request consultation from gastroenterology and surgical services as appropriate
   e. Write orders for blood products and pre-medication as indicated
   f. Provide appropriate nutritional support for patients who are unable to eat
   g. Re-evaluate the patient frequently to assess response to treatment and progression of disease

Attitudes and professional behavior

Subinterns should demonstrate:

1. An understanding and respect of the patient's wishes with regards to the administration of blood products and provide alternate options for resuscitation
2. The ability to communicate effectively with patients, family and consultants regarding the patient's condition

Case I: Acute GI Bleeding

Your senior resident sends you the emergency department to evaluate a 66 year old female who presents with hemetamesis.

Patient is a 66 year old female who presents with 2-3 episodes of vomiting bright red blood. Patient has a history of hypertension and osteoarthritis. Her current medications include Ibuprofen and atenelol. Patient is a smoker and drinks about 6-8 beers every day for the past 25 years. Patient denies, abdominal pain, recent loss of appetite or loss of weight.

Question 1
What are some of the critical elements to focus on during your initial assessment of this patient?

You arrive in the emergency department. Physical examination reveals, BP of 90/50, HR 110, RR 18, pulse ox 95% on room air. Patient is awake; oriented to place and person. Neck no JVD, no nodes palpable. Cardiac exam reveals normal S1 and S2, Lungs are clear to auscultation. Patient has no stigmata of chronic liver disease. Abdomen is soft non tender without organomegaly. There is no free fluid in the abdomen. Rectal exam reveals brown stool that is heme positive.

Laboratory data already obtained by the ED reveal:
Hemoglobin 12.3, Hematocrit 36.0; WBC 11.6, platelets 230,000
BUN 36, creatinine 0.5, rest of the electrolytes are within normal limits
PT/INR – 12.3/1.1
PTT – 24
Liver enzymes are within normal limits
Urine analysis is within normal limits

Patient has been started on IV normal saline by the ED resident and has been typed and crossed for 2units of PRBCs. The NG placed in the ED reveals coffee grounds without active bleeding.

Question 2
What differential diagnosis of upper GI bleed would you entertain in this patient?

Question 3
Based on the initial assessment of this patient and baseline laboratory data, what are your next considerations?

After receiving 1 liter of IV fluid, patient's BP was 120/70, HR 95/min. Patient is an elderly patient with few adverse prognostic factors, hence she was admitted to the Intermediate Medicine Surgical Unit. A GI consult was called to evaluate the patient. EGD performed revealed acute gastritis with multiple gastric erosions.

Question 3
What are your next steps based on the findings on the EGD?

Question 4
What are your next steps if the EGD showed the following?

- ***i) Non-bleeding visible vessel at the base of a gastric ulcer***
- ***ii) duodenal ulcer with a flat clean base***

Case II: Acute GI Bleeding

Scenario: You are on call on the general Medicine Inpatient red team and are cross covering for the Blue team. As you are settling into bed at 3AM after a busy night of admissions, your beeper goes off – it is a nurse from 1E (the general medicine floor) calling you about Mr. AG, a patient on the Blue team who has suddenly begun passing bright red blood per rectum. You try to ask a question but he says, "Sorry doc got to go – the patient is calling again", and hangs up.

Question 1: What questions would you have liked to ask the nurse?

As you hurriedly tumble out of bed (the tone of the nurses voice making you acutely aware of his concern), you do not recall there being a GI bleeder on your sign out sheet. You try to run through the differential diagnosis of bright red blood per rectum (BRBPR).

Question 2: What are the major causes of BRBPR?

You arrive on the cardiac floor and quickly run into the patient's room. The nurse is by his bedside taking vital signs. The patient looks pale, but is talking to the nurse. You decide you have time to briefly review the chart.

Question 3: What specific information would you look for when you arrive at the patient's bedside?

Physical examination:
You go into the room to examine Mr. AG. He is a 54 year old gentleman with history of coronary artery disease, and hypertension who was admitted 36 hours earlier for chest pain. His initial cardiac enzymes were normal, but because of his history and highly suggestive story, he was placed on IV heparin. Patient has no prior history of GI bleed.
He is pale, slightly diaphoretic, but denies abdominal or chest pain. He has had another episode of a large amount of BRBPR since you have arrived on the floor. Vitals: Afebrile, BP lying down110/60 (was 130/70 on admission), P 100 regular, patient unable to sit up to check for orthostatics since he is too woozy. RR18, Oxygen saturation on 2L nasal canula at 97%

JVP 6 cm, Chest is clear. Heart tachycardic without murmurs. Abdominal exam shows a nondistended, nontender abdomen with normal bowel sounds, no organomegaly; Rectal exam reveals bright red blood on the gloved finger, but no hemorrhoids, masses or stool in the rectal vault. Extremities are cool with thready pulses, no edema.

Question 4: What are the next steps in patient management?

The patient's second set of enzymes are also negative and his EKG shows tachycardia, but no acute ST-T changes and otherwise looked the same as on admission. STAT labs show a H&H of 7.5/21.0 (down from 10.0 /32.0 on admission), platelets were 350K, electrolytes, BUN/ creatinine were normal, PTT 120

Question 5

- *i)* ***Should you transfuse packed erythrocytes in this patient? Why or why not?***
- ii) ***Should you stop the heparin?***
- iii) ***What are the diagnostic studies available for the evaluation of lower GI bleed? What is indication for a bleeding scan?***
- *iv)* ***Any other thoughts/ plans?***

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