

Location: Emergency Room

Vitals: BP: 104/70 mm Hg (supine), 80/50 mm Hg (sitting); HR: 120/min; RR: 24/min; Temp: 98.4 (36.9C)

C.C: Bright red blood per rectum

HPI:

A 65-year-old white female is brought to the ER with a one-day history of passing bright red blood with bowel movements. She has had three episodes with moderate amount of fresh blood mixed with stools, with no anal pain. Her stools are soft in consistency and there is no history of fissures or hemorrhoids in the past. She felt weak and light headed. There was no history of nausea, vomiting or abdominal pain. She denied any hematemesis, melena, diarrhea, constipation, jaundice or weight loss. Her past medical history is significant for type II diabetes mellitus, hypertension and hyperlipidemia. She has never had a colonoscopy in the past. She has no allergies. Her medications include glyburide, simvastatin and lisinopril. The patient does not smoke or consume alcohol. Her mother died of colon cancer at the age of 60 years. Rest of the review of systems is unremarkable.

How would you approach this patient?

This is a patient with hematochezia, who is hemodynamically unstable as is obvious from the hypotension, orthostasis and tachycardia. The initial approach should be to take the general resuscitative measures, a delay in which might be life threatening. Simultaneously, think of a differential diagnosis and order the relevant tests to rule in and rule out the disease process and its etiology. Remember you always need a thorough focused physical examination before establishing a diagnosis.

Order No. 1:

IV access, stat - 2 large (18 G) IV bore needles

Start IV fluids: Normal Saline, continuous

Continuous cardiac monitoring

Continuous BP monitoring

Pulse oximetry, stat

NPO

*If the CCS doesn't provide orthostatic vitals you can order: Postural vitals, stat

Results for Order No. 1:

BP - 100/70 mm Hg; HR- 124/min

Oxygen Saturation is 97% on room air

Order physical exam:

General appearance

HEENT/Neck

Examination of CVS

Examination of lungs

Examination of Abdomen

Examination of Rectum

FOBT (not required if u see a fresh bleeding)

Extremities

Results of Physical Examination:

General appearance: Pale looking, anxious female. HEENT: Pale conjunctiva, anicteric sclera, dry mucous membranes; no JVD. No palpable lymph nodes. Lungs are clear to auscultation and percussion bilaterally. Cardiovascular: Tachycardic, S1 S2 normal, no murmurs, rub or gallop. Abdomen is soft, non-tender, no rigidity, rebound or guarding; bowel sounds are normal, no organomegaly or free fluid. Rectal: Normal sphincter tone, no hemorrhoids or fissures, blood in rectum. Extremities: no edema, clubbing or cyanosis, no calf tenderness, peripheral pulses feeble. Rest of the exam is unremarkable.

Order No. 2

CBC with differential, stat
BMP, stat
LFTs, stat
PT/aPTT, stat
EKG, 12 lead, stat
Type and Crossmatch, stat - in preparation for blood transfusion
Nasogastric tube, aspiration
Anoscopy, stat
Discontinue her glyburide, simvastatin and lisinopril

Results for Order No. 2:

BP - 100/70 mm Hg; HR- 124/min
CBC: Hgb -7.5 g/dl, Hct- 22.5 %, WBC - 12,000/uL, Platelet - 450,000/mm³, normal differential count
BMP: BUN - 25, Creatinine -1.0, Sodium -135 meq/L, Potassium - 3.7 meq/L, Chloride -104 meq/L, Bicarbonate - 25 meq/L
LFT: Total bilirubin - 1.0 mg %, Direct bilirubin - 0.4 mg %, ALT - 31 IU/L, AST - 30 IU/L, Alkaline phosphatase - 110 IU/L
PT=17 sec, INR=1.60; aPTT=39 sec, control=35 sec
EKG shows sinus tachycardia without evidence of ischemia or infarction
Nasogastric aspirate - bilious with no blood
Anoscopy - no anal fissures; no external or internal hemorrhoids; no ulcerations in distal part of rectum

Order No. 3:

Admit in ICU
Continue NPO
Stop IV NS
Start packed RBC transfusion - 3 Units
4 Units fresh frozen plasma (FFP)
H and H every 6 hours
PT after FFP transfusion
Continuous BP monitoring
Discontinue NG tube
Complete bed rest
Urine output
Apply pneumatic compressions for DVT prophylaxis
Accucheck every 6 hours (use regular insulin as needed, based on blood sugar levels)
Examine the patient 6 hours later: order interim history and focused physical exam (make sure you listen lungs as they may develop fluid overload with all the IV infusions).

Results for Order No. 3:

BP - 110/70 mm; HR- 100/min
After 3 Units of PRBC and 4 Units FFP
Hgb-10.5 g/dl; Hct-30%
PT=14.5 sec, INR=1.45

Patient feels better; exam looks fine**Order No. 4:**

Gastroenterology consult, stat for colonoscopy (Reason: 65 yr old with Hematochezia, no prior Colonoscopy; Please evaluate for the source of bleeding).
Continue NPO
Restart IV NS, continuous (if the lungs are clear)
H and H every 6 hours
Start bowel preparation for colonoscopy - 4 liters of polyethylene glycol (Golytely, Colyte) given over two hours
Vitals every 2 hours
Call me when the lab results available

Results for Order No. 4:

Colonoscopy - Multiple diverticuli in sigmoid and descending colon. Biopsy taken

Hgb-10.2 g/dl; Hct- 30.6 %

BP - 120/80; HR- 90/min

Order No. 5

Discontinue NPO

Stop IV NS

Start clears and advances to high fiber diet as tolerated

H and H every 12 hours

Results of order No. 5:

Patient is tolerating low roughage diet

Hgb-10.0 g/dl; Hct- 30.0 %

BP - 128/80; HR- 74/min

Biopsy is positive for diverticulosis, no inflammation or ulceration; no malignant cells

Order No.6

Discharge the patient home after overnight watch

High fiber diet

Restart her home medications

D/C DVT prophylaxis

Follow-up appointment in one week with repeat Hgb and hematocrit.

Discussion:

Differential Diagnosis: LGI bleed by definition is bleeding distal to the ligament of Treitz. Most patients with bright red blood per rectum or hematochezia have a LGI bleed, but about 10% are the result of a brisk UGI bleed. Thus patients with hematochezia should have a nasogastric tube lavage to exclude an upper gastrointestinal hemorrhage. An EGD instead of the usual colonoscopy may be needed to establish the cause of hematochezia in case the nasogastric aspirate shows blood.

The most common causes are diverticulosis, angiodysplasia, polyps and colon cancer in a patient above 65 years. All these conditions are painless, except colon cancer, which sometimes may be associated with abdominal pain. This patient is at a high risk of colon cancer because of a positive family history. Another important cause to consider in this patient is ischemic colitis since she has multiple risk factors for vascular disease. However, ischemic colitis is most often associated with abdominal pain. Also remember, that diverticular bleed usually do not occur in the presence of diverticulitis. Other less common causes include inflammatory bowel disease (ulcerative colitis, Crohn's disease), vasculitis (Polyarteritis nodosa, Wegner's granulomatosis), radiation colitis, and infectious colitis (Ecoli, salmonella, CMV).

Management:

1. Hemodynamic stabilization is more important before a colonoscopy. Hemodynamically unstable patients should be admitted in the intensive care unit. Presence of shock, orthostatic hypotension, a 6% drop in hematocrit or blood transfusion requirement of two or more units suggests hemodynamic instability.
2. All patients with GI bleeding should have two large bore (18 G or larger) peripheral IV lines. Patient should be resuscitated with blood transfusions to keep a hematocrit greater than 30%. If coagulopathy is present, transfusion with FFP and administration of Vitamin K is needed to keep the INR below 1.5. Platelet transfusions may be needed for platelet counts of less than 50,000/ mm³.
3. Calcium levels should be monitored as multiple transfusions may lead to hypocalcemia requiring specific therapy.
4. Nasogastric tube lavage should be done. If it shows no blood or has copious bile then

the investigation of choice once the patient is stabilized, is colonoscopy. Colonoscopy can localize the site of bleeding, allow tissue biopsies, and therapeutic interventions like injection sclerotherapy and electrocautery. However, a good bowel preparation is needed for good visualization of the colon. If nasogastric aspirate shows blood then an EGD is recommended as the initial investigation of choice. If EGD is negative, then go ahead with colonoscopy.

What if the colonoscopy is normal but the patient continues to have hematochezia?

Order a tagged red blood cell scan (radionuclide imaging study) - Radionuclide scanning is a highly sensitive technique that can detect bleeding occurring at a rate of 0.1 to 0.5 mL/minute. However, it cannot localize the site of bleeding and requires presence of active bleeding at the time of the test. If the tagged RBC scan is positive, one must proceed with angiography.

Angiography detects blood loss as low as 0.5 mL/minute. The procedure is 100 percent specific and is performed to accurately localize the site of bleeding, especially if surgical management is needed. It also permits control of bleeding using vasopressin infusion or embolization via the catheter. However, it is an invasive procedure and needs to be performed during active bleeding.

*Remember that angiography is reserved for patients in whom colonoscopy cannot localize the site of bleeding or is not feasible.

When should I get surgery consult?

A surgical consultation is needed for continued severe bleeding with high transfusion requirements. A blind surgery performed without localizing the site of bleeding carries a higher risk of rebleeding. Hence, if feasible a tagged RBC scan and angiography should be done before proceeding for surgery.

Final Diagnosis:

Lower gastrointestinal hemorrhage, secondary to diverticulosis.

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