GI Bleed With a Twist

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Clinical Presentation

• 72 y/o female with history of diverticulosis who presented to Urgent Care with an acute onset of bright red blood per rectum.

• The patient had been feeling well until that afternoon when she developed bloody bowel movements prompting her to go to urgent care and then the ED.

• Upon presentation to the ED she reported 6 episodes of bright red, bloody, watery diarrhea with clots about every 45 min to 1 hour.
Clinical Presentation

- Hx colonoscopy 5/2011 w/ diverticular disease, otherwise normal.
- No hx GI illness. Is on ASA. No travel, recent abx.
- ROS: She denies a history of previous GI bleeding, abdominal pain, nausea, fevers, vomiting, recent weight loss, or change in stool size. She denies a family history of colon cancer, IBD, or liver disease
Past Medical/Surgical History

- Osteoporosis
- Hyperlipidemia
- Diverticulosis (last colonoscopy was 5/2011—showed moderately severe diverticulosis)
- Osteoarthritis
- Tonsillectomy
- TAH (hx of endometriosis)
Medications

- Simvastatin
- ASA 81 mg daily
- Metrogel
- Glucosamine
- Vitamin D
- Ibuprofen takes 400 to 600 mg 2-3 times per week for osteoarthritis
Physical Exam (from ER):

- **Vitals:** bp 108/78 P: 80 T: 98.1 RR 16
- **General:** Alert and oriented x4 mildly fatigued
- **HEENT:** PERRLA, EOMI; oral and nasal mucosa pink, moist, no lesions. Posterior pharynx appears normal with no erythema, tonsillar edema or exudate. External auditory canals clear, no erythema. TM visualized, intact and moveable
- **NECK:** supple, no LAD, no JVD, no carotid bruits
- **LUNGS:** CTA bilaterally
- **CV:** RRR no M/G/R
Physical Exam

- **Abdominal Exam**: soft, NT, tones hyperactive, tender over LLQ without guarding or rigidity, no palp mass, rebound neg. No CVAT.

- **Rectal**: non thrombosed hemorrhoid. DRE: NT, no palp mass or tenderness, normal sphincter tone, BRB to slightly dark blood coating exam finger, Careful slow attempt with shallow anoscopy to about 1 1/2 depth- small to moderate amount BRB to slightly dark blood immediately propelled out with removal of center piece/anoscope plug, no clots, no masses or lesions seen,. Anoscope carefully removed. No further bleeding noted during.
Labs

- WBC: 7k, HGB 14.5, HCT 43.0, PLATELETS 234
- CHEM 7: Na 137, creatinine 0.878 BUN 17
- Tot bili 0.3, calcium 9.0, alk phos 75, ast 22, alt 25.
- INR 1.2
Hospital Course

- Admitting diagnosis was GI bleed (likely secondary to diverticuli), given IVF, and plan for colonoscopy next am.

- Patient continued to bleed overnight, hgb dropped to 8.0 (from 14.5 on admit), patient was hypotensive. She was given more fluids, transfused and transferred to IMC.
Hospital Course

- The following am, colonoscopy showed diverticulosis without active bleeding or a clear site for the bleed.
- Hgb stabilized following the procedure and she was discharged, with instructions to stop ASA and ibuprofen.
- “If the patient has further serious problems of diverticuli, such as diverticular bleeding or diverticulitis, she could consider partial colonic resection.”
- Hgb at discharge was 12.5
Office follow up one week later:

- Feeling well, no further blood in stool, hgb stable at 12.3

- Discussed whether further studies were needed (EGD; capsule enteroscopy). Decided not to pursue at this point.

- Pt reminded to stay off of all nsaid/as a.
4 days later...

- (Now 12 days after hospital stay).
- Pt is back in clinic, and does not feel well.
- 2 day history of feeling lightheaded and weak. Reports waking up two nights ago with "large loose brown stool"-Denies bloody or black stools or abd pain, N/V, CP, fevers or dyspnea. Bowel movements are soft, formed. ROS: Productive cough, post nasal drip.
- Decreased appetite
Physical Exam

- **Orthostatics:**
  - Supine bp 116/68 P 68,
  - Sitting bp 106/70, P: 64
  - Standing bp 96/66 P: 68; Afebrile

**General:** A & O x3. NAD.

- **Skin:** Normal skin color, texture, and turgor. No suspicious rashes or lesions.

- **HEENT:** wnl

- **Oropharynx:** Normal oropharyngeal mucosa. No redness, exudate, sores, or PND.
Physical Exam

- **Neck:** Supple. No obvious lymphadenopathy, thyromegally, or abnormal masses. No carotid bruits bilaterally.

- **Cardiovascular:** Regular rate. Normal S1 and S2. No obvious murmurs, rubs, clicks, or gallops.

- **Lungs:** Clear bilat

- **Abdomen:** Soft. Non tender/nondistended. Active bowel sounds x4 quadrants. No obvious masses or hepatosplenomegaly.

- **Rectal exam:** Tan colored stool and guaiac negative.

- **Extremities:** No deformities or edema. Normal radial & pedal pulses.
Labs

- Hemoglobin 9.0 (was 12.3 at discharge one week ago), WBC 4K, platelets 184.
- Chem panel: Na 142, K 4.2, Cl 106, CO2 31, BUN 23, creatinine 0.8
- Alk phos, ALT, AST, wnl. Tot bili wnl (0.6)
Now what?

- Due to recent brisk GI bleed, drop in hemoglobin and orthostatis, patient was readmitted—working diagnosis was rebleed.
  - EGD done which was normal.
  - Hgb stayed steady around 10.
  - Discharged with recommendation for capsule enteroscopy as outpatient.
• Upon discharge I noted that patient had an antibody detected on her type and cross during the second hospitalization.

• I added LDH and Haptoglobin to her blood, already at the lab.

• LDH was 433 (normal 90-245) and haptoglobin was undetectable, consistent with a hemolytic anemia.
Call to the Blood Bank

- I called the blood bank—her blood had been sent out to the Red Cross for further testing.
- The patient had 4 antibodies, some of which formed secondary to the transfusion she received during first hospitalization and others which may have been present prior to the transfusion, but at a lower level.
Delayed Hemolytic Transfusion Reaction

- Given timing of presentation, recent transfusion, and blood work, consistent with a delayed hemolytic transfusion reaction (DHTR)
Delayed Transfusion Reactions: Objectives

• Etiology
• Timing
• Symptoms
• Treatment
Hemolytic Transfusion Reactions

- Caused by interaction of recipient Ab with donor RBC antigen, donor Ab with recipient antigen, or rarely, antibody in donor’s plasma meets up with an antigen on another donor’s RBC (referred to as inter-donor incompatibility).

- ABO incompatibility: pt with type A (and anti-B isoantibody) given type B blood.
Delayed Transfusion Reaction

- Antibody response occurs after re-exposure to a foreign red cell antigen previously encountered by transfusion, transplantation, or pregnancy.

- The antibody, often of the Kidd or Rh system, is undetectable on pre-transfusion testing but increases rapidly in titer following the transfusion.
Transfusion Reactions: Acute vs. Delayed

- Acute: within 24 hours
- Delayed: generally occur 2 to 10 days after transfusion.
- Delayed: Hemolysis is usually gradual, and less severe than with acute reactions, but rapid hemolysis can occur.
Delayed Transfusion Reaction

- Prior exposure through pregnancy or transfusion --> sensitization to minor antigens on RBCs --> primary immune response
- Alloantibody titer decreases over time with no transfusion/pregnancy, so pre-transfusion testing is negative
- Re-exposure to RBC with those antigens --> anamnestic response --> production of IgG --> extravascular hemolysis
Delayed Transfusion Reaction

- Signs/symptoms: Fatigue, malaise, jaundice, fevers, chills
- Lab: A falling hematocrit, mild increase in serum unconjugated bilirubin, and spherocytosis on the blood smear may be noted.
- The diagnosis is often made by the blood bank when a new positive direct antiglobulin test and a new positive antibody screen are found when more blood is ordered.
**Direct Coombs test / Direct antiglobulin test**

Blood sample from a patient with immune mediated haemolytic anaemia: antibodies are shown attached to antigens on the RBC surface.

The patient’s washed RBCs are incubated with antihuman antibodies (Coombs reagent).

RBCs agglutinate: antihuman antibodies form links between RBCs by binding to the human antibodies on the RBCs.

**Indirect Coombs test / Indirect antiglobulin test**

Recipient’s serum is obtained, containing antibodies (Ig’s).

Donor’s blood sample is added to the tube with serum.

Recipient’s Ig’s that target the donor’s red blood cells form antibody-antigen complexes.

Anti-human Ig’s (Coombs antibodies) are added to the solution.

Agglutination of red blood cells occurs, because human Ig’s are attached to red blood cells.
Delayed Transfusion Reaction

- Treatment — No treatment is required in the absence of brisk hemolysis. However, future transfusions containing the implicated red cell antigen need to be avoided.

- It is important to inform the patient of the name of the offending antigen, and maintain appropriate hospital and blood bank records.
Follow up from the Red Cross

- Antibody IDs from Red Cross: there were 4 different antibodies.
- There was just one blood type in the blood that the Red Cross reviewed (indicating donor blood had been hemolyzed).
Take Home Points

- Importance of careful chart review following hospitalizations, especially if patient is not improving.
- Consider alternative diagnoses.
- Review of Delayed Transfusion Reaction
- Pt follow up:
  - She has done well, with no further bleeds. Capsule enteroscopy was normal.
References
