MECHANISMS OF HUMAN DISEASE AND PHARMACOLOGY & THERAPEUTICS

SMALL GROUP DISCUSSION

MHD II
Session 1
Gastrointestinal

Monday, January 9, 2017

STUDENT COPY
CASE 1

CHIEF CONCERN: "I'm passing black stool and have felt dizzy for 3 days."

HISTORY OF PRESENT ILLNESS: Mr. Murphy is a 45 year-old advertising executive who presents to the emergency department complaining of the passage of black stools x 3 days and associated lightheadedness. He also relates that he cannot keep up with his usual schedule because of fatigability. Upon further questioning he states that his stools are not only black, but are sticky and malodorous. He denies passing red, bloody stool. He has had normal bowel habits and has not had prior black stools. He denies nausea or emesis. He further notes recent worsening of a chronic epigastric burning which had been a problem off and on for years. He had doubled his usual dose of antacids without significant relief of the burning. He drinks 2-3 martinis with lunch and “a shot” before dinner. He smokes two packs of cigarettes per day and an occasional cigar. He takes ibuprofen as needed for back pain and recently started on one aspirin per day for cardiac prophylaxis. He thinks he had a “stomach ulcer” in the distant past but had no specific evaluation or treatment for it. He denies bleeding tendencies or prior transfusion.

His weight is stable to increased and he has an excellent appetite.

Mr. Murphy has been treated for hypertension for eight years but denies any known coronary artery disease. He has had no previous surgery.

Medications:
Metoprolol 50mg twice a day
Ibuprofen 600mg three times daily as needed
Aspirin 81mg daily
Over the counter antacids

PHYSICAL EXAMINATION: Examination reveals an alert, oriented, overweight male. He appears anxious and somewhat restless. Vital signs are as follows. Blood Pressure 120/80 mmHg, Heart Rate 100/min - Supine; BP 90/60 mmHg, HR 130 - Standing (Patient complains of dizziness); Respiratory Rate 20 /minute; Temperature 98°F.

HEENT/SKIN: Facial pallor and cool, moist skin are noted. No telangiectasia of the lips or oral cavity are noted. No spider nevi are seen. The parotid glands appear full.

CHEST: Lungs are clear to auscultation and percussion. The cardiac exam reveals regular rhythm with an S4. No murmur is appreciated. Peripheral pulses are present but are rapid and weak.

ABDOMEN/RECTUM: The abdomen is rounded but not distended. Bowel sounds are hyperactive. There is moderate tenderness in the epigastrium. The liver is percussed to 13 cm; the edge feels firm. The spleen is not felt and no abdominal masses are appreciated; the exam is felt to be suboptimal secondary to the patient's obesity. Rectal examination reveals black, tarry stool.

There are no dupuytren's contractures.
EDUCATIONAL OBJECTIVES

1. Define all unknown terms.

2. Cite the major clinical problem (not the diagnosis).

3. Develop a differential diagnosis by listing diseases which cause this problem.

4. What is the most likely diagnosis? Cite the data which support your diagnosis.

5. List causes of non-bloody black stools.

6. What are the clinical findings which support a diagnosis of acute blood loss?
7. Cite the amount of blood necessary to produce the following clinical findings: occult blood in stool, melena, orthostatic hypotension.

8. List and prioritize the steps taken in the emergency department management of this patient.

9. A nasogastric tube is placed by the Emergency Medicine resident. The NG aspirate is “clear”. Does this alter or refine your previously cited differential diagnosis?


11. What is the therapy of peptic ulcer disease?
12. Review Case Images.
Gastrointestinal – Set 1

Questions 13 and 14 - Unknowns.
Data will be available during the small group session.
Be prepared to interpret laboratory and other diagnostic data for this patient.
Be prepared to discuss issues related to “blood typing” and potential transfusion in this patient.

CASE 2

Chief Complaint “My bowel movements are bloody”

History of Present Illness The patient is a 70 year-old woman who presents with a chief concern of having a large, bloody bowel movement. Earlier in the day, the patient experienced the urge to defecate and then passed a large quantity of blood. She had no nausea, vomiting,
abdominal pain, tarry stool or lightheadedness. She has no previous history of passing blood per the rectum. Her bowel movements had been previously “normal”.

Her past medical history is significant for hypertension treated with hydrochlorothiaizde 25mg daily and mild arthritis of her left knee for which she takes acetaminophen 1000mg twice daily.

**Physical Examination** In the Emergency Department, she was alert and talkative. Her pulse was 110/min and regular. Her blood pressure, in a supine position was 150/70 mm Hg which fell to 130/60 when she sat up. Her heart and lung exams were normal aside from tachycardia. The examination of the abdomen revealed normal active bowel sounds and no tenderness, masses or organomegaly. Rectal exam revealed large external hemorrhoids but no masses. Stool was grossly bloody.

**Laboratory Data**

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<td>H</td>
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<tr>
<td>RBC</td>
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<td>Hgb</td>
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<td>L</td>
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<td>[85-95] fl</td>
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<tr>
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<td>[28.0-32.0] pg</td>
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<tr>
<td>MCHC</td>
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<td>[32.0-36.0] gm/dl</td>
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<tr>
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<tr>
<td>Plt Count</td>
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<td>[150-400] k/ul</td>
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Prothrombin Time

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<tr>
<td>INR Ratio</td>
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SUGGESTED THERAPEUTIC RANGE FOR CONTROL OF ORAL ANTICOAGULANT THERAPY

- INR 2.0-3.0 FOR DVT/PE, TISSUE VALVE, ATRIAL FIB, MI-STROKE PREVENT
- INR 2.5-3.5 FOR MECHANICAL VALVE

| APTT | 22.0 | [21.6-33.2] sec |

Basic Metabolic Panel

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<tr>
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<tr>
<td>Creatinine</td>
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<tr>
<td>Calcium</td>
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During the first day of hospitalization the patient had no further bleeding episodes. Serial hemoglobin and hematocrit values were stable.

1. What is the clinical problem? Develop a differential diagnosis by listing diseases which may present with this problem, especially in an older adult.

2. Compare and contrast melena, hematochezia and occult blood in the stool.

The patient was prepped (by drinking 2 liters of polyethylene glycol solution) for colonoscopy which was performed on hospital day 2. Colonoscopy revealed multiple outpouchings of the mucosa through hypertrophied muscular layers. There was no evidence of active bleeding.

3. What is the most likely diagnosis? What is the pathogenesis?

Case 3,4 - UNKNOWNs
STUDENTS WILL NOT HAVE CASE DATA UNTIL THE SESSION MEETS