EM CASE OF THE WEEK.

BROWARD HEALTH MEDICAL CENTER
DEPARTMENT OF EMERGENCY MEDICINE

BROWARD HEALTH
Care Warriors

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Assessment and Management of Acute GI Bleeds

A 57-year-old male with a history of alcohol abuse presents to BHMC with abdominal pain and nausea for two weeks. When the pain started, he also noticed some black and tarry stools as well as increased fatigue. He had multiple episodes of non-bloody emesis at home, which prompted him to come to the hospital. The patient presented to the ED with pain the was sharp in his epigastric region and was a 10/10. During the physical exam, the patient had an episode of hematemesis (shown at the right). Blood pressure was 107/70 with a heart rate of 75, and the patient was not in acute distress. His abdomen was diffusely tender and was positive for rebound. Labs were drawn, his hemoglobin was 15.5, and fecal occult blood test was positive. Which of the following is the most appropriate initial treatment for this patient's condition?

A. One large bore IV, IV fluids, PPI

B. Two large bore IVs, IV fluids, PPI, octreotide

C. Two large bore IVs, IV fluids, PPI, Erythromycin

D. Two large bore IVs, IV fluids, blood transfusion, PPI

E. Two large bore IVs, IV fluids, PPI, octreotide, rocephin

When patient's present with hematemesis, the differential diagnosis should include:

Esophageal/gastric varices, peptic/duodenal ulcer, intestinal perforation, Mallory-Weiss lesion, arterio-intestinal fistula, malignancy, GAVE syndrome, Dieulafoy lesion, and hereditary bleeding conditions.

EM Case of the Week is a weekly "pop quiz" for ED staff.

The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education for our nurses and staff.

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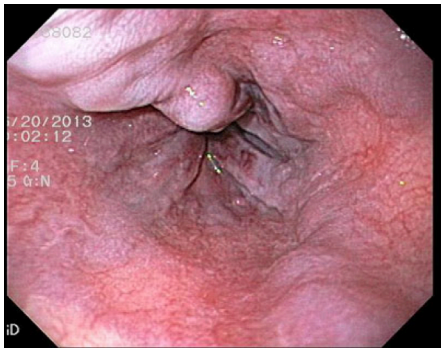
The correct answer is B. Two large bore IVs and IV fluids should be started immediately. A PPI is indicated for suspected GI bleed. Octreotide is indicated because we have not ruled out a variceal bleed in this patient with alcohol abuse. Erythromycin is only given 30-90 minutes before endoscopy. The patient's vitals are stable, so blood transfusion is not indicated. Rocephin is only indicated for patients with known cirrhosis.

Introduction

Patients with acute upper gastrointestinal (GI) bleed can present in many ways. Patients can vomit blood or coffee-ground-like material, or can have black or tarry stools, or even both. They can also present with only abdominal pain. Initial evaluation of patients with GI bleeding is focused on assessing the hemodynamic stability of the patient with resuscitation if necessary. Diagnostic studies aim towards finding the cause of the bleed, but can also be therapeutic, in the case of upper endoscopy. Past medical history that could lead to increased likeliness of GI bleed include history of liver disease or alcohol abuse, peptic ulcer disease, history of H. Pylori, NSAID use, or malignancy history in presence of smoking or alcohol abuse.

Initial Evaluation

Initial evaluation of a potential upper GI bleed involves a focused history and physical examination, lab tests, imaging, and in some specific cases, a nasogastric lavage. The goal of these tests is to assess the severity of the bleed, which will lead to different treatment and interventions. Some important aspects to look for in the history and exam are patient-reported history of melena, melenic stool on exam, blood in NG lavage, and blood urea nitrogen to serum creatinine ratio of greater than 30. Factors associated with severe bleeding include bright red blood per NG lavage or emesis, tachycardia, and hemoglobin levels less than 8 g/dL. In one meta-analysis, melenic stool on exam showed the highest likelihood ratio over all the others. Special attention should be paid to the patient's medications, particularly to drugs that facilitate ulcer formation or promote bleeding, such as NSAIDs, aspirin, or anticoagulation.



Esophageal varices, shown on the left, increase in size due to increased venous pressure secondary to liver disease.

General Management

For general support, patients should be placed on a nasal canula to receive oxygenation and should receive nothing further by mouth. Initially, two large bore IVs (16 gauge or larger) should be placed for fluid resuscitation or potential blood transfusion. If patient is hemodynamically unstable, consider placing a central line for pressure support.

Regarding fluid support, patients should receive a fluid bolus immediately for stabilization. If they fail to respond to initial measures, the rate of administration should be increased. The patient should also be type and screened in case they need a blood transfusion.

The current literature calls for a blood transfusion if the patient's hemoglobin is less than 7 g/dL. If the patient has comorbidities that would need a higher hemoglobin, such as unstable coronary artery disease, it's recommended to keep the hemoglobin above 9 g/dL. If the patient is actively bleeding and hypovolemic, they will need transfusion regardless of their hemoglobin levels.

For a list of educational lectures, grand rounds, workshops, and didactics please visit ***BrowardER.com*** and **click** on the ***"Conference"*** **link**.

All are welcome to attend!

Patients with suspected GI bleed are typically treated with a proton pump inhibitor (PPI). Protonix is commonly used and given by IV. PPIs have been shown to decrease the length of hospital stay, rebleeding rate, need for blood transfusion, and can also promote hemostasis. In patients who are taking an anticoagulant or antiplatelet, they should be held immediately and reversed if possible. If there is a suspected variceal bleed, the patient should be started on an octreotide drip. Lastly, if a patient is going for emergency endoscopy, the patient can be given reglan or erythromycin to help empty the stomach for better visualization in the setting of emergency endoscopy.

Admission risk marker	Score
Blood Urea mmol/L	
≥6.5 -7.9	2
8-9.9	3
10-24.9	4
≥25	6
Haemoglobin g/dL (men)	
≥12 -13	1
10-11.9	3
<10	6
Haemoglobin g/dL (women)	
≥10-12	1
<10	6
Systolic blood pressure mmHg	
100-109	1
90-99	2
<90	3
Other markers	
Pulse ≥100	1
Presentation with malaena	1
Presentation with syncope	2
Hepatic disease	2
Cardiac failure	2

Blatchford Score

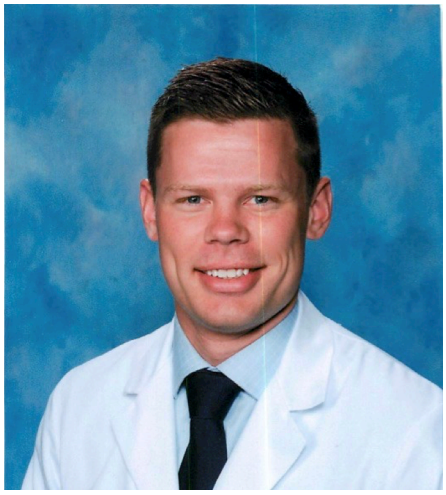
This score can be used on initial presentation to the ER to assess the need for urgent endoscopic evaluation. The system is based on BUN, hemoglobin, vital signs, presence of melena, syncope, hepatic disease, and/or cardiac failure. The score ranges from 0 to 23, and the higher the score, the higher the indication for urgent endoscopic evaluation.

In our patient's initial presentation, his score was 5, indicating he was high risk for a GI bleed, that will likely require further intervention.

A CT scan was done, revealing the patient had a ruptured duodenal ulcer.

Take Home Points

- A careful history should be obtained to identify potential sources of GI bleeds and to assess the severity of the bleed
- Physical exam should focus on signs that indicate severity of blood loss
- Appropriate risk scores can be calculated to facilitate optimal triage decision making
- Starting appropriate treatment is crucial to stabilize the patient quickly for appropriate therapeutic procedures to take place



ABOUT THE AUTHOR

This month's case was written by Ben Byriel. Ben is a 4th year medical student from NSU-COM. He did his emergency medicine rotation at BHMC in November 2017. Ben plans on pursuing a career in Gastroenterology after graduation.

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