



EM CASES SUMMARY

Episode 102 – GI Bleed Emergencies Part 2

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Medications in upper GI bleed emergencies

There is a cocktail that many will learn to give when treating UGIB. Some medications, protocolled though they may be, lack the evidence needed to make them part of standard care. Some we need to give, others are simply nice to give.

Proton Pump Inhibitors (PPIs) in upper GI bleed emergencies

According to a 2010 Cochrane review, **PPIs do not affect clinically important outcomes**. There was no change in mortality, re-bleeding, or the need for transfusion or surgical intervention when compared to placebo. There is also little evidence to support the method by which to administer these drugs. Bolus, infusion or both do not alter outcomes. There is some data to suggest that PPIs initiated before endoscopy may reduce high-risk stigmata of bleeding at the time of scope (NNT = 15). Most endoscopists still want PPIs given to ED patients presenting with an UGIB.

Take home message:

- PPIs should be low priority in your resuscitation
- Bolus, no infusion – save that line for other more important things
- If the endoscopist wants a PPI given, give it

Antibiotic prophylaxis in cirrhotic upper GI bleed emergencies

Many cirrhotic UGIB patients do not die from hemorrhage but instead from bacterial infections in subsequent days. It makes sense then, that antibiotics should be part of your initial management of these patients. According to another 2010 Cochrane review, **antibiotic administration was associated with reduced mortality, bacterial infections, re-bleeding events and hospitalization length of stay** in cirrhotic patients. The data here is strong, with a NNT of 1 in 22 to prevent death and 1 in 4 to prevent infectious complications.

Take home message:

- Antibiotics such as Ceftriaxone reduce mortality in cirrhotics with upper GI bleed emergencies
- Make antibiotics a high priority in resuscitation

Somatostatin Analogues: Octreotide

Although a 2008 Cochrane review found **no mortality benefit**, there is evidence that octreotide may help prevent re-bleeding in both variceal *and* non-variceal UGIB patients. Octreotide reduces splanchnic blood flow and acid production, so it makes physiologic sense to give it.

Take home message:

- Octreotide, while not life-saving, may prevent rebleeding for both variceal and non-variceal bleeds
- Octreotide should be a moderate priority in the resuscitation of all UGIB patients regardless of cause

GI motility agents for upper GI bleed emergencies: Erythromycin and Metoclopramide

Administration of IV erythromycin 30 minutes before endoscopy for a bleeding peptic ulcer increases gastric motility and improves visualization of the gastric mucosa at endoscopy. A meta-analysis of 4 trials showed that the use of erythromycin decreased the need for blood transfusion and repeat endoscopy.

Metoclopramide is thought to increase GI motility and helps prevent vomiting but studies are small and show no clinical outcome benefit.

Order of priority of IV medications in upper GI bleed emergencies

1. **Ceftriaxone 1 g IV** for all cirrhotics
2. **Octreotide 50 µg bolus + 50 µg/hr infusion** for all UGIB patients
3. **Erythromycin 250mg**, 30 minutes prior to endoscopy for suspected peptic ulcer
4. **PPI e.g. Pantaprazole 80 mg IV bolus** (no infusion necessary) – once you've given everything else, if the endoscopist asks for it

NNT Summary for Medications in GI bleed

NNT = 10 for Erythromycin to decrease need for repeat endoscopy
NNT = 0 for PPIs to prevent mortality, surgery and repeat bleeding
NNT = 0 for Octreotide to prevent death or need for transfusion
NNT = 22 for prophylactic antibiotics to prevent death
NNT = 4 for prophylactic antibiotics to prevent infection

Risk Stratification and Disposition of GI bleed emergencies

The majority of patients presenting with UGIBs do well, with only 15% requiring intervention. There are several risk stratification scores to help us decide in the ED who is at low risk, but the Glasgow-Blatchford Score (GBS) is the most useful.

Glasgow-Blatchford Score

Table 2. Low risk features, Glasgow-Blatchford

SBP > 110 mm Hg

HR < 100 bpm

No melena, syncope, cardiac failure, liver disease

Urea < 18.2 mg/dL

Hemoglobin > 12 g/dL (M) or > 11 g/dL (F)

The Glasgow-Blatchford Score (GBS) is better than another commonly used score, The Rockall Score, in predicting the need for admission, blood transfusion or surgery.

GBS is also better than Rockall in predicting patients with UGIB who can be safely discharged. Patients with GBS <3 could be considered for early discharge doubling the number of eligible patients from 15% to 32%.

Lactate in risk stratification of GI bleed emergencies

In general, elevated lactate correlates to a worse prognosis in GI bleed as observed in trauma and sepsis patients.

A retrospective 2014 study of 1644 GI patients found that a lactate > 4 mmol/L conferred a 6.4-fold increased odds of in-hospital mortality, and when age, initial hematocrit, and heart rate were controlled, every 1-point increase in lactate conferred a 1.4-fold increase in the odds of mortality.

Take home stepwise approach to GI bleed emergencies

Prepare your team, get equipment ready (double suction, meconium aspirator, Blakemore tube, rapid transfuser).

Obtain IV access and send off CBC, lytes, BUN, Cr, INR/PTT, liver enzymes, Ca, fibrinogen. Cross and type 4 Units.

Resuscitate. Crystalloid early only to keep MAP >60. Otherwise 4 Units pRBCs at the bedside. Consider MTP if no response to initial therapy, high pRBC transfusion rate or shock index >1.

Secure the airway. Double suction setup. Use S.A.L.A.D. approach to decontaminate airway. Drain the stomach from above (NG tube) and below (erythromycin 30min prior to scope).

Give your meds. Everyone gets octreotide 50µg bolus then 50µg/hr, cirrhotics get ceftriaxone 1g IV. Give PPI as an 80mg bolus (save your lines!) if GI requests it.

Call your consultants. GI for urgent scope, Hematology to expedite an MTP, ICU.

In stable patients, consider risk stratification (Glasgow-Blatchford score) with a view of potential discharge and early scope.

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Best Case Ever 51 - Anticoagulants and GI Bleed

<https://emergencymedicinescases.com/anticoagulants-gi-bleed-walter-himmel/>

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