

A close-up photograph of coffee beans and grounds, serving as a background for the text. The beans are dark and glossy, while the grounds are a fine, dark brown powder. The lighting is dramatic, highlighting the textures of the coffee.

Wake Up and Smell the Coffee Grounds: Stopping Massive GI Bleeding

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Puddle of Blood

- 42 y.o. male...
 - Found outside a bar, lying in a puddle of something
 - Minimally responsive initially but *arousable*
 - Emesis interspersed with *blood*
 - Two *large bore IVs* established en route
- EPIC has some insight...
 - Alcoholic hepatitis → *LFTs* ↑ in 2018
- Vitals upon arrival:
 - T: 37.2°C HR: 128 BP: 91/65 RR: 11
SpO2 = 97%

Assessing the Patient

- Blood in the posterior oropharynx but *no visualized active bleeding*
- Slightly *distended*, non-tender abdomen
- Fecal occult blood test was (+) without frank blood
- Remainder of the exam → *Unremarkable*
- Vomits a large amount of blood just as you finish the exam

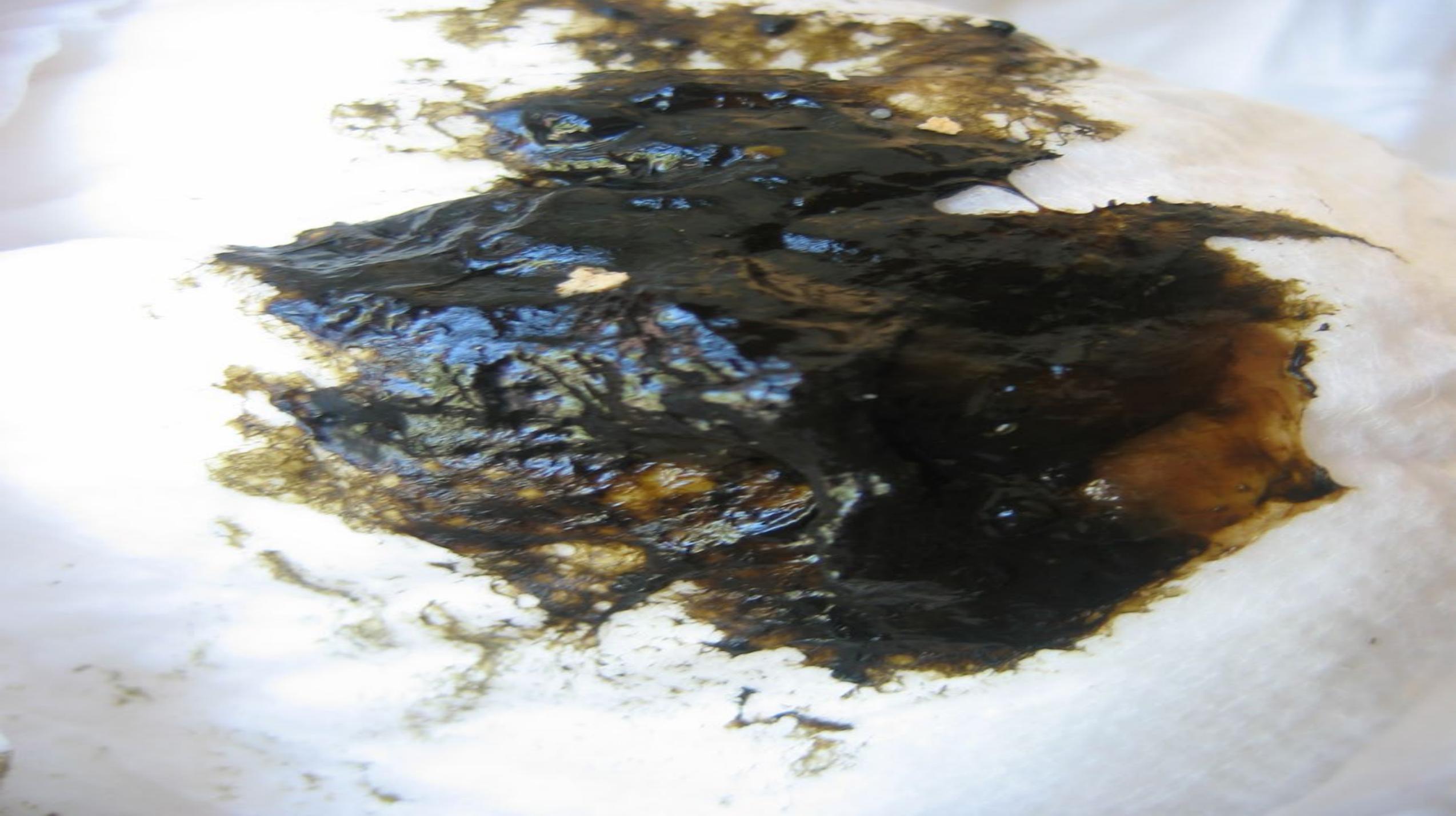


GI Bleeds



- Upper GI Bleeding (UGIB)
 - 37-172 cases per 100,000 adults per year
 - Annual mortality 10-14%
 - PUD is the leading cause
- Lower GI Bleeding (LGIB)
 - 25-35 cases per 100,000 adults per year
 - Annual mortality 2-5%
 - Diverticulosis is the leading cause
- 300,000 hospitalizations in the US annually







Management of GI Bleeds

- IV access
- Labs
 - CBC
 - Helpful?
 - BMP
 - BUN/Creat > 30 is highly suggestive of GI source
 - Coags
- Crystalloids?
- Medications?
- Interventions?



The GI Treatment Playlist



- Fluids
- Proton pump inhibitors (PPIs)
- Antibiotics
- Somatostatin analogues
 - Octreotide
- TXA
- Vitamin K
- Factor VII
- Prokinetics
- Blood
- Mechanical devices

Crystalloids in GI Bleeding

- Impact is similar to trauma patients
 - Volume expansion temporarily improves vital signs
 - Making us feel better
 - No benefit on mortality
 - NIH recommends no more than 1-2 liters to avoid coagulopathy and increased mortality





The Truth on PPIs

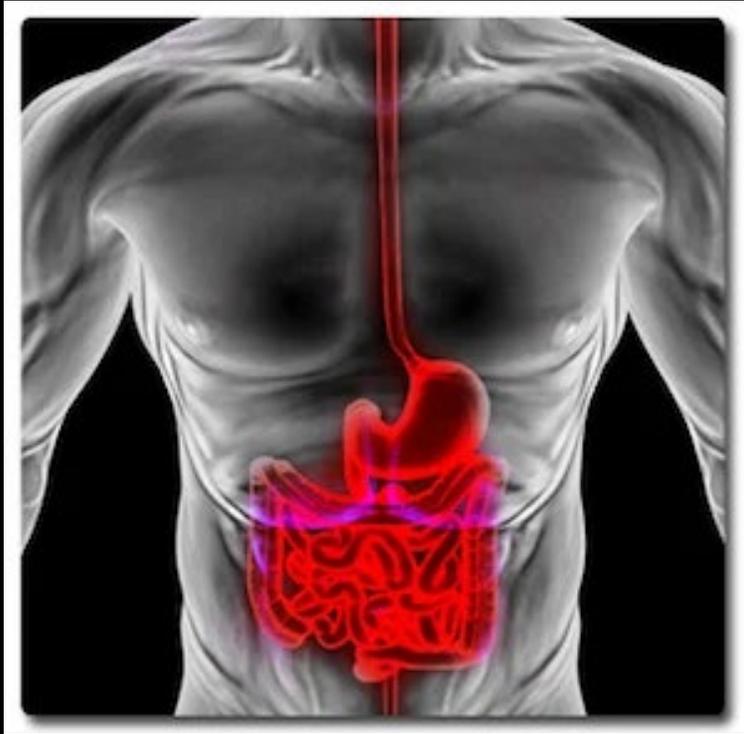


- Meta-analysis
 - 12 trials
 - 9533 patients
 - Reduced incidence of bleeding
 - No effect on mortality
 - Wang et al
 - NEJM, 2024
 - No impact on mortality, rebleeding, or need for surgery
 - Kanno et al
 - Cochrane Database Syst Rev, 2022

PPI Caveats

- Decreased endoscopic intervention
 - But not mortality
- Proven PUD
 - Decreased rebleeds
 - Decreased surgery
 - No change in mortality
- Not expensive
 - Pantoprazole or omeprazole
- If you are going to use them
 - Bolus only
 - No drip



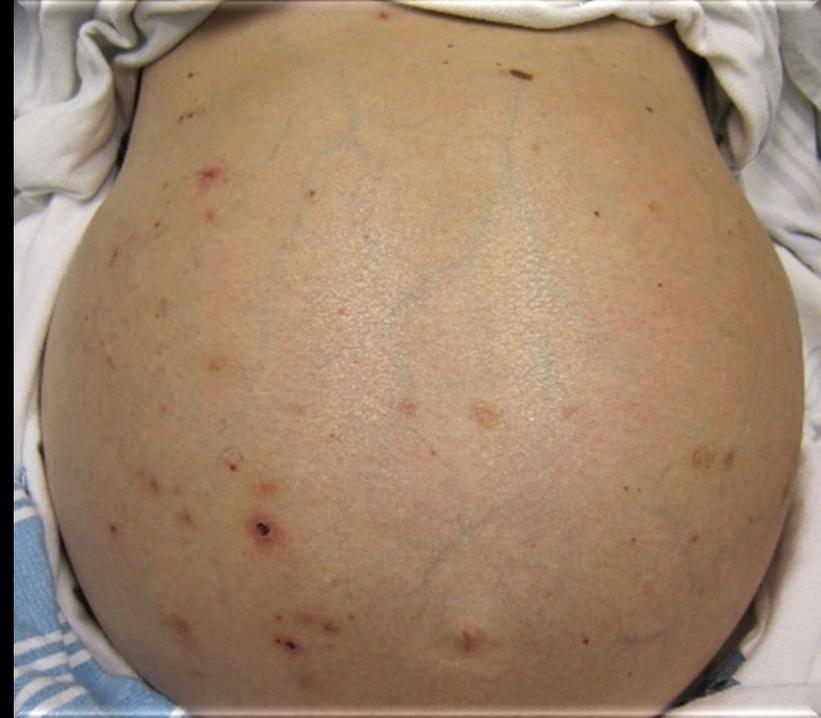


GI Bleed Antibiosis

- Prophylactic antibiotics in upper GI bleeds
 - Gao et al
 - PLoS One, 2022
 - 26 studies
 - 12,440 patients
 - Antibiotics resulted in a reduction in:
 - Mortality
 - Infections
 - Re-bleeds
 - Length of hospitalization
 - Greatest benefit was found in advanced cirrhosis, severe bleeding and variceal bleeds

Which Antibiotic?

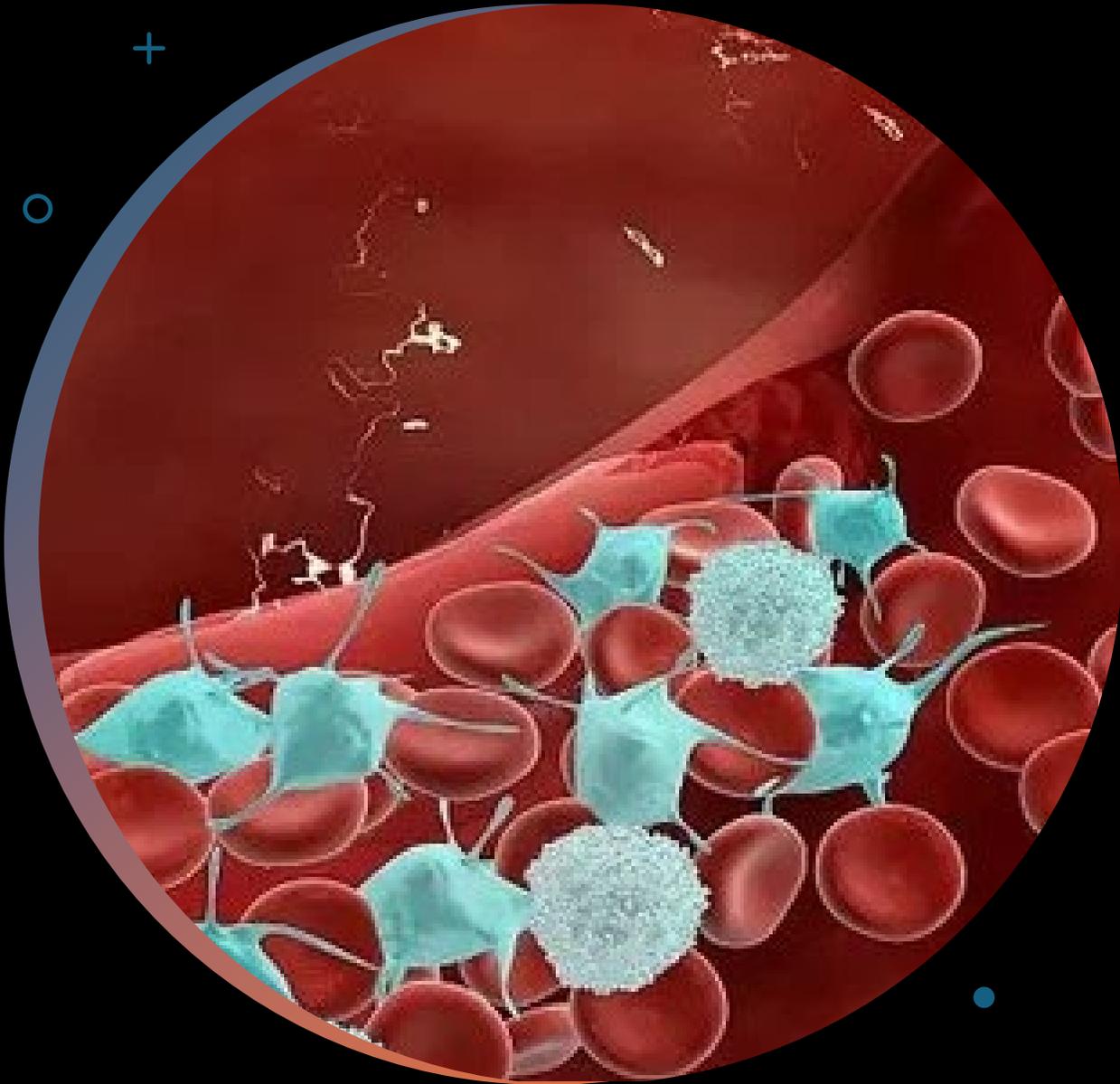
- Gram negative coverage
- Current recommendations include:
 - Norfloxacin
 - 400 mg po twice daily
 - Ciprofloxacin
 - 400 mg po twice daily
 - Ceftriaxone
 - 1 gm per day
 - Particularly in advanced cirrhotic patients



How About Octreotide?

- Decreases splanchnic blood flow
 - Decreased portal pressure
- Cochrane review found
 - Decreased transfusion requirements
 - No benefit to mortality
 - Gotzsche et al, 2000
- Recommended for variceal hemorrhage
 - Garcia-Tsao et al
 - Gastroenterology, 2024





Octreotide

- Take home:
 - Reduces transfusions
 - Improved endoscopy results
 - Makes sense for variceal bleeds
 - In general, needs an infusion
 - May be some benefit of a bolus



TXA?

- Halt it right there
 - Fixes other problems, why not GI bleeds?
 - HALT-IT trial
 - 12,009 patients
 - 89% with upper GI bleeds
 - Lancet, 2020
 - No benefit in time to death
 - No reduction in rebleeding rates
 - NNH was 250

Other Meds



- Prokinetics
 - Erythromycin/metoclopramide
 - Goal is to enhance gastric emptying
 - Erythromycin may enhance endoscopic view
 - No impact on patient-centered outcomes
- Vitamin K
 - No good data
- Factor VII
 - No evidence for benefit

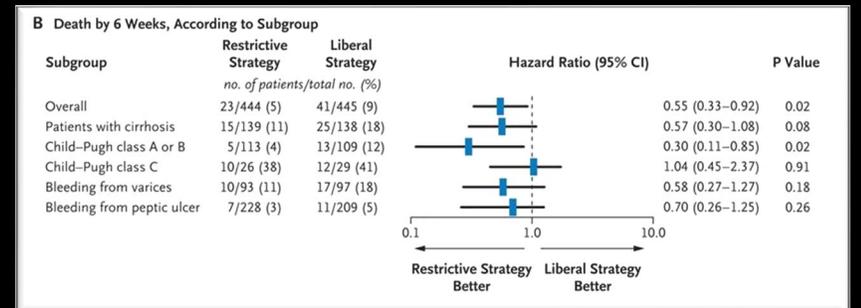
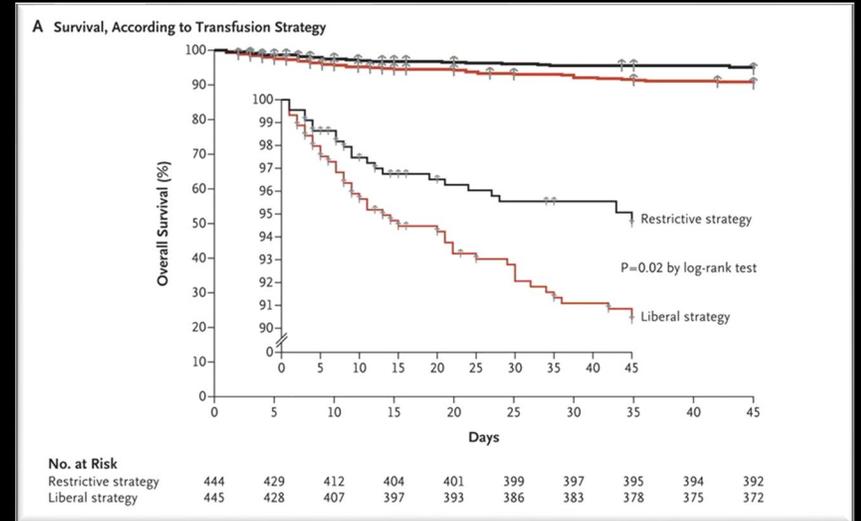
Blood Transfusion?

- Restrictive vs. liberal blood transfusion for GI bleeding: A systematic review and meta-analysis of RCTs
 - Odutayo et al
 - Lancet, 2017
 - 5 trials
 - 1965 patients
 - Restrictive transfusion was associated with lower mortality



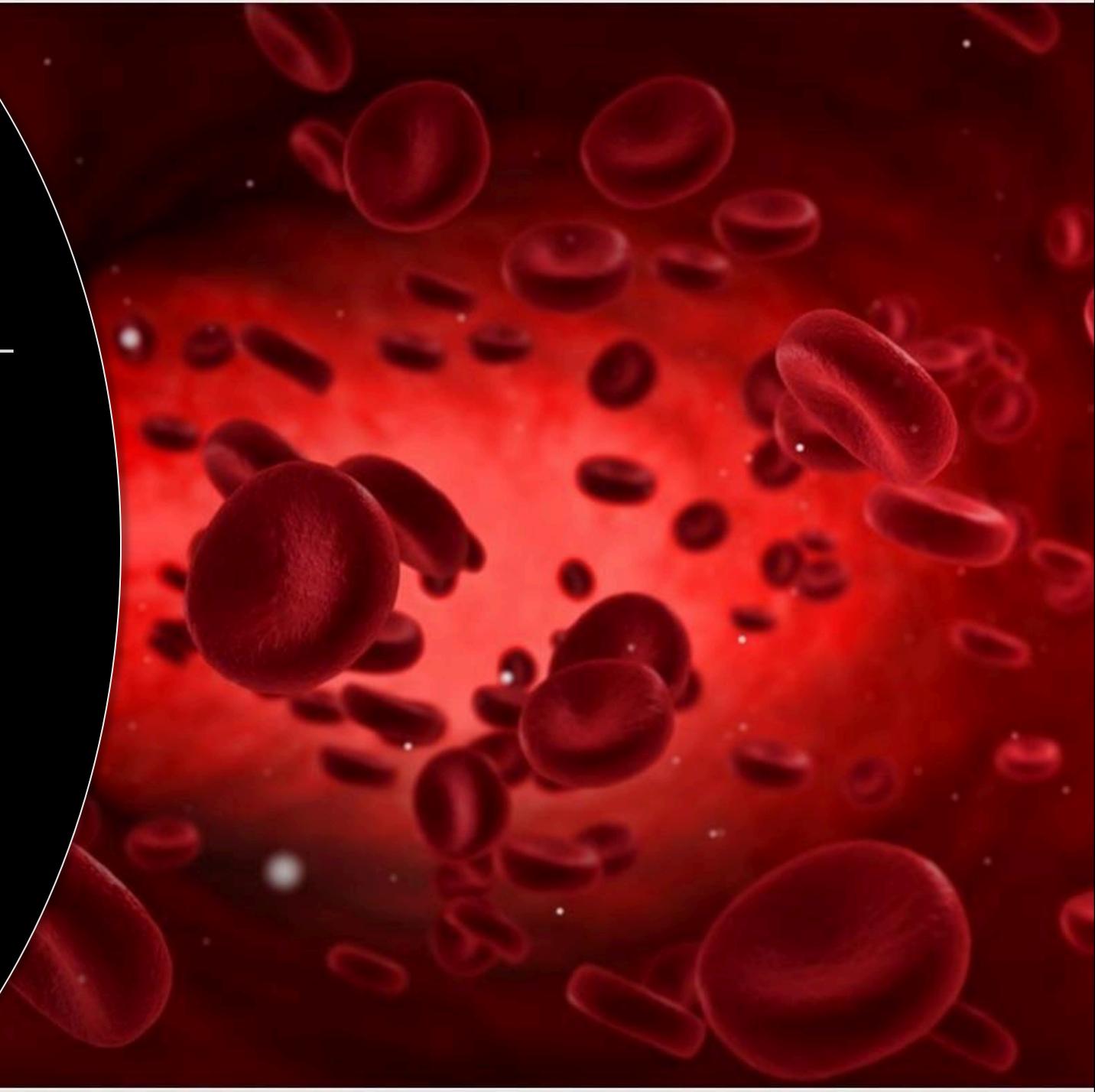
Transfusion Goals

- Restrictive
 - < 7 g/dL
 - Liberal was < 9 g/dL
- Permissive hypotension
 - 70-90 mmHg

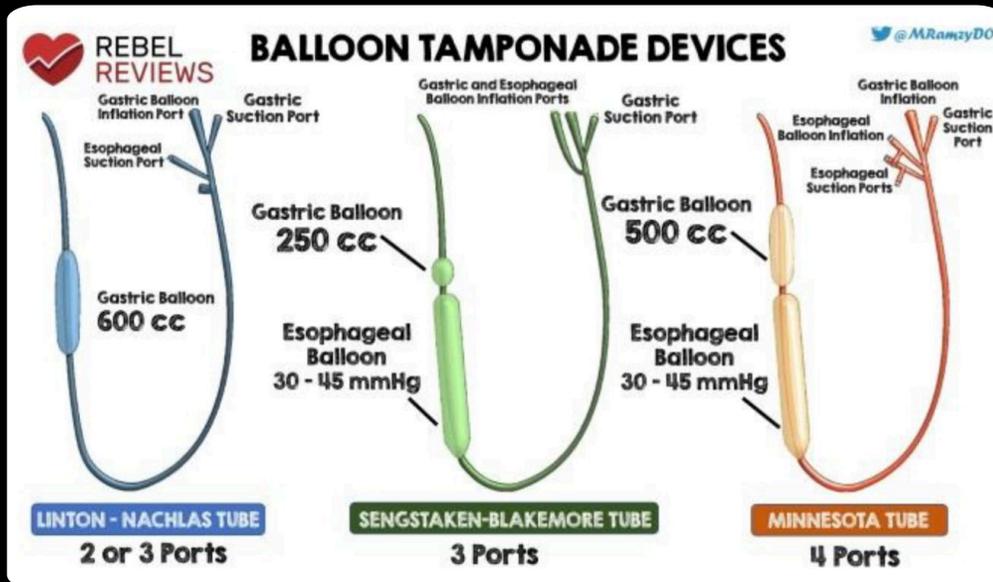


Manage Coagulopathy

- If transfusing blood, reverse coagulopathy
- Platelets
 - Transfuse at $< 20,000$
 - Consider at $< 50,000$ if actively bleeding
 - Uremia
 - Desmopressin (DDAVP) increases platelet function
 - Not useful with low platelets
- Remember calcium when activating MTP



Balloon Tamponade



- Minnesota tube
 - Temporizing measure
 - Intubate first
 - Gastric balloon is inflated by volume
 - 300-500 mls
 - Esophageal balloon is inflated by pressure
 - 30-45 mmHg
 - Pitfall
 - Incorrect positioning
 - X-ray should show the tip below the diaphragm
 - 50 cm at the lips

Pitfalls in Managing GI Bleeds

- Failure to manage coagulopathies
 - Reversing anticoagulation
 - Platelets
 - Liver disease
- Overreliance on the initial hemoglobin
- Over-resuscitation



In Summary

- GI bleeds can go bad
 - Be ready
- Look for clues
 - Liver disease
- Antibiotics
 - Yes, particularly with cirrhosis
- PPI
 - Sure, particularly in ICU patients
 - Give as a bolus
 - No infusion



Thank You!

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That's all Folks!