GASTRO INTESTINAL BLEEDING

PRESENTED BY

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INTRODUCTION

- Gastrointestinal bleeding (GI bleed), also known as gastrointestinal hemorrhage, is all forms of bleeding in the gastrointestinal tract, from the mouth to the rectum.

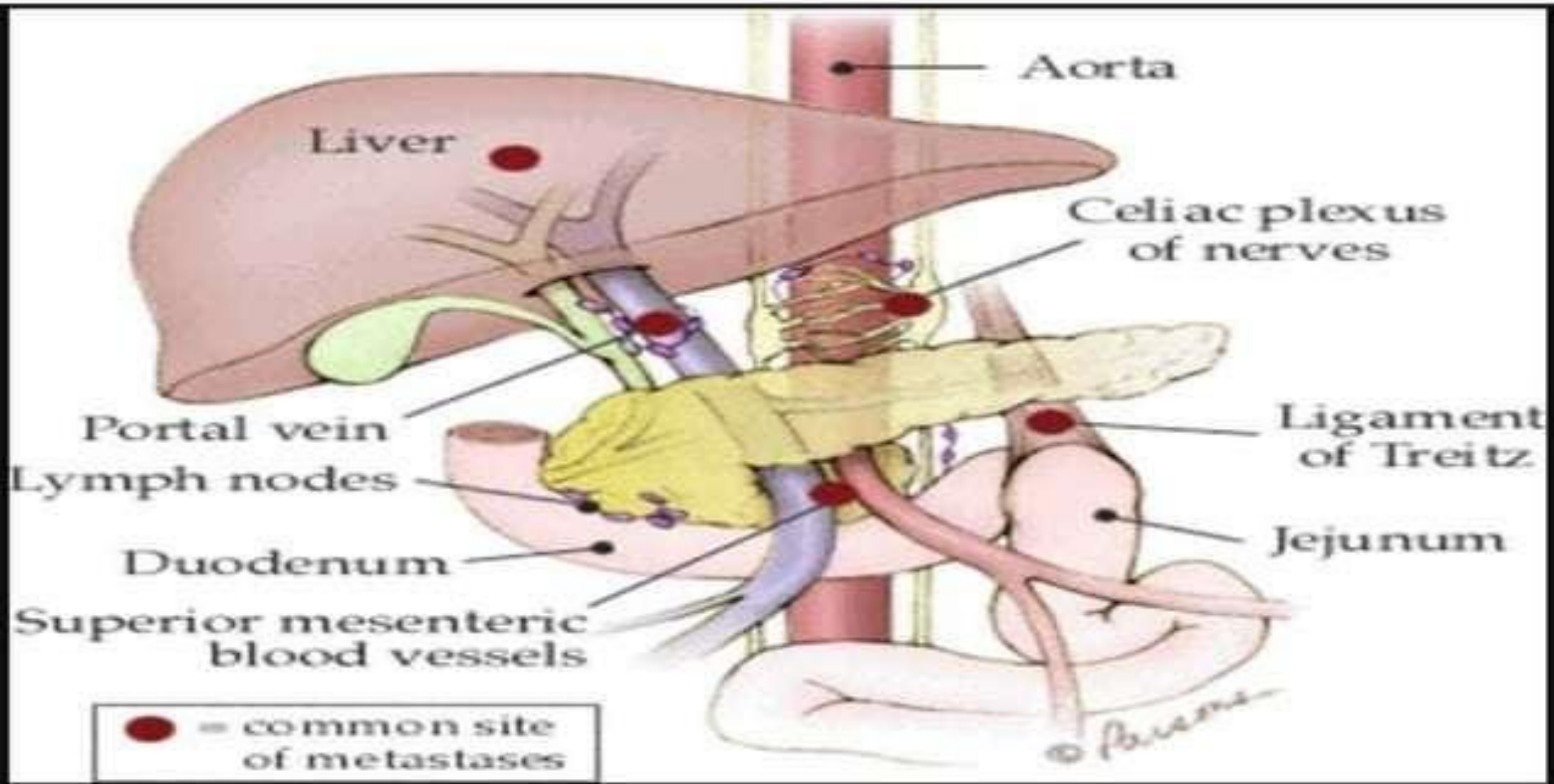
Classified into

- Upper GI Bleed
- Lower GI Bleed

CLASSIFICATION

Upper vs. Lower GI bleed

- **UGIB = proximal to ligament of Treitz**
- **LGIB = distal to ligament of Treitz**



UPPER GASTROINTESTINAL BLEED

CAUSES

1. Peptic ulcer disease (20-50%)
2. Gastroduodenal erosion (8-15%)
3. Esophagitis (5-15%)4. Varices (5-20%)
5. Mallory-Weiss tear (8-15%)
6. Vascular malformation (5%)

IN CHILDREN

- Esophagitis
- Gastritis
- peptic ulcer disease

SYMPTOMS

- Melena or Melenic stools (black, tarry and foul smelling stools or dark-colored stools)
- Hematemesis
- Red Hematemesis – vomiting of fresh blood
- Coffee Ground Hematemesis – vomiting of blood altered by stomach acids and enzymes.
- Dyspepsia
- Heartburn or epigastric pain

- Abdominal pain
- Dysphagia – difficulty in swallowing
- Jaundice if bleeding is related to liver diseases
- Weight loss
- Syncope and/or Presyncope
- Pallor

LOWER GASTROINTESTINAL BLEED

CAUSES

1. Diverticulosis (20-65%)
2. Angioectasia(40-50%)
3. Ischemic colitis
4. Hemorrhoids (2-5%)
5. Colorectal neoplasia
6. Postpolypectomybleeding (2-8%)
7. Solitary rectal ulcer
8. Radiation proctopathy

80% of adults with LGIB.

- Diverticulosis
- Angiodysplasia

In children

- infectious colitis
- inflammatory bowel disease

most common cause of massive LGIB in children younger than 2 years of age

- Meckel's diverticulum
- intussusception

SYMPTOMS

- Hematochezia – fresh blood in stools may be due to hemorrhoids or anal fissure
- Bloody diarrhea is typical of Colitis, the inflammation of the colon
- Febrile episodes
- Hypovolemic shock or dehydration
- Abdominal cramps or pain
- Hypotension
- Decreased hemoglobin levels
- Pallor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HISTORY

- duration and quantity of bleeding
- associated symptoms
- previous history of bleeding
- current medications,
- alcohol
- NSAID ASA
- allergies
- associated medical illnesses
- previous surgery

HISTORY OF BLEED

- In 50% Patients typically complain of vomiting red blood or coffee grounds–like material, or passing black or bloody stool.
- Hematemesis (vomiting blood) occurs with bleeding of the esophagus, stomach, or proximal small bowel.
- Melena, or black tarry stool, will result from the presence of approximately 150 to 200 mL of blood in the GI tract for a prolonged period.

FALSE-POSITIVE

- associated with the ingestion of
  - certain fruits (e.g., cantaloupe, grapefruit, figs),
  - uncooked vegetables (e.g., radish, cauliflower, broccoli)
  - red meat

- methylene blue, chlorophyll, iodide, cupric sulfate, and bromide preparations.

- ***Hematochezia,*** or bloody stool (bright red or maroon) most often signifies LGIB

- Could be due to a brisk UGIB with rapid transit time through the bowel in 10 to 15% of patients.

- a more proximal source of significant bleeding must be excluded before assuming the bleeding is from the lower GI tract.

PHYSICAL EXAMINATION

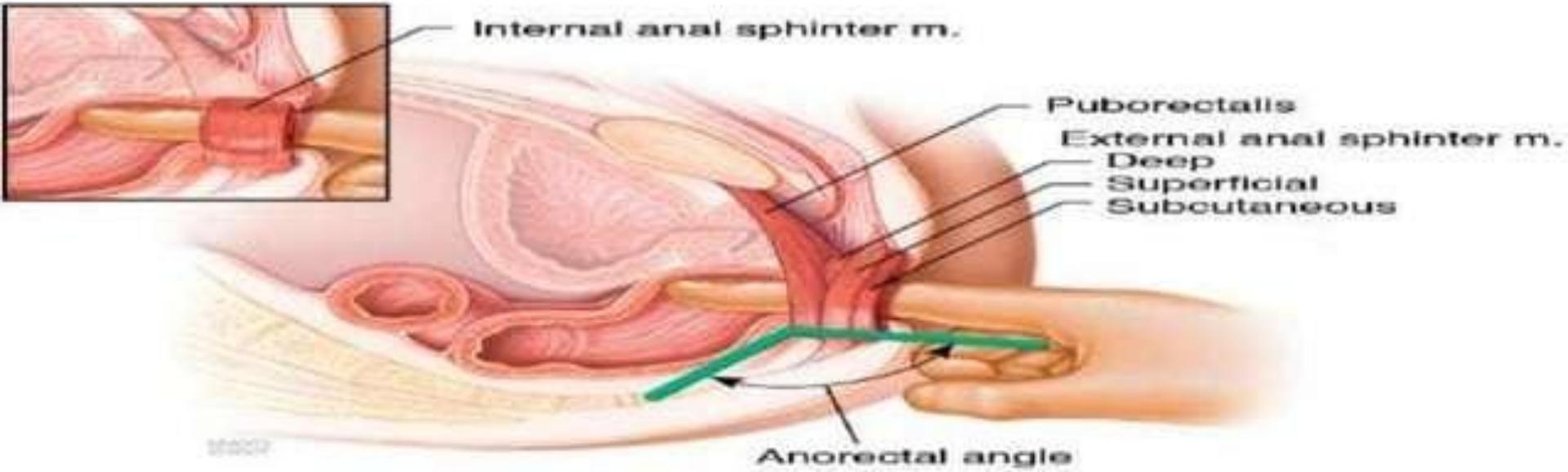
Vital signs and postural changes in heart rate and blood pressure are insensitive and nonspecific.

- Tachycardia
- Tachpnea
- Hypotension

- skin signs (e.g., color, warmth, and moisture to assess for shock, or presence of lesions such as telangiectasia, bruises, or petechiae to assess for vascular diseases or hypocoagulable states)

RECTAL EXAMINATION

- Rectal and stool examinations are often key to making or confirming the diagnosis of GI bleeding.
- The finding of red, black, or melenic stool early in the assessment is helpful in prompting early recognition and management of patients with GI bleeding.



TESTS FOR OCCULT BLOOD

- The presence of hemoglobin in occult amounts in stool is confirmed by tests such as (Hemoccult, HemaPrompt).

- Stool tests for occult blood may have positive results 14 days after a single, major episode of UGIB.

HEMATOCRIT

- The initial hematocrit may be misleading in patients with preexisting anemia or polycythemia.
- Changes in the hematocrit may lag significantly behind actual blood loss.

- rapid infusion of crystalloid in nonbleeding patients also may cause a decrease in hematocrit by hemodilution.

HEMOGLOBIN

- hemoglobin concentration of 8 g/dL or less (hematocrit <25%) from acute blood loss usually require blood therapy.

- After transfusion and in the absence of ongoing blood loss, the hematocrit can be expected to increase approximately 3% for each unit of blood administered (hemoglobin level increases by 1 mg/dL).

COGULATION PROFILE

An elevated PT may indicate

- vitamin K deficiency
- liver dysfunction
- warfarin therapy
- consumptive coagulopathy.

- Serial platelet counts are used to determine the need for platelet transfusions (i.e., less than 50,000/mm3).

ABG AND ELECTROLYTES

Patients with repeated vomiting, may develop,

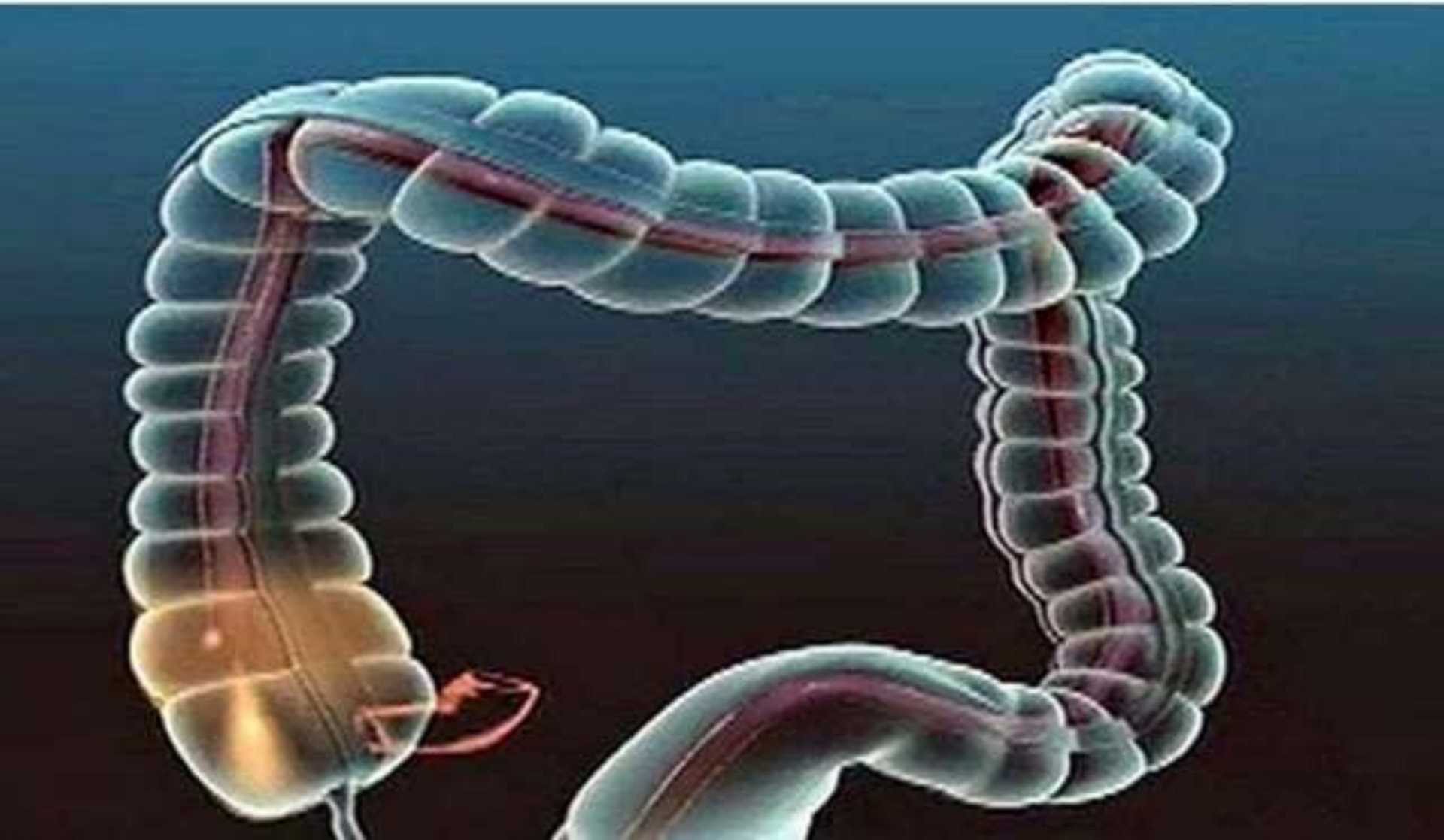
- Hypokalemia
- Hyponatremia
- metabolic alkalosis

ANGIOGRAPHY

- Gold standard for diagnosis of upper GI Bleed

COLONOSCOPY

- Best method for detecting lower GI bleed



the SCORES

ROCKALL SCORE

Score <3 carries good prognosis

Score >8 carries high risk of mortality

Rockall Scoring System				
Variable	**Score=0**	**Score =1**	**Score =2**	**Score =3**
Age (years)	<60	60-79	>80	
Comorbidity			Congestive heart failure, ischemic heart disease	Renal failure, liver disease, metastatic disease
Shock	No shock	Pulse > 100 bpm	Systolic BP <100 mmHg	
Source of bleeding	Mallory-Weiss Tear	All other diagnoses: e.g., esophagitis, gastritis, peptic ulcer disease, varices	Malignancy	
Stigmata of recent bleeding	None		Adherent clot or spurting vessel	

GLASGOW-BLATCHFORD BLEEDING SCORE (GBS)

Blatchford scoring system	
Clinical parameter	**score**
level of urea in serum (mol/L)	
• 6,5 - 8.0 • 8,0 – 10,0 • 10,0 – 25,0 • > 25,0	• 2 • 3 • 4 • 6
level of haemoglobin (g/L) m	
• 120 – 130 • 100 – 120 • < 100	• 1 • 3 • 6
level of haemoglobin (g/L) w	
• 100 – 120 • < 100	• 1 • 6
value of systolic blood pressure (mmHg)	
• 100 – 109 • 90 – 99 • <90	• 1 • 2 • 3
Rapid pulse > 100 / minute	• 1
Melaena	• 1
Syncope	• 2
Liver failure	• 2
Cardiac failure	• 2

In the validation group, scores of 6 or more were associated with a greater than 50% risk of needing an intervention.

Score is equal to "0" if the following are all present:

- Hemoglobin level >12.9 g/dL (men) or >11.9 g/dL (women)
- Systolic blood pressure >109 mm Hg
- Pulse <100/minute
- Blood urea nitrogen level <6.5 mg/dL
- No melena or syncope
- No past or present liver disease or heart failure

AIMS65 Score	
Variable	Score
Albumin <3 g/dL	1
INR >1.5	1
Systolic BP <90 mmHg	1
Altered Mental Status	1
Age >65 yr	1
Scores >2 are considered high risk	

The AIMS65 score was useful for predicting the 30-day mortality, transfusion requirement, and endoscopic intervention in Korean patients with acute NVUGIB. However, it was inferior to the GBS and fRS for predicting the transfusion requirement and endoscopic intervention, respectively.

Comparison of AIMS65 Score and Other Scoring Systems for Predicting Clinical Outcomes in Koreans with Nonvariceal Upper Gastrointestinal Bleeding Conducted by Sung ming Park et all...


TREATMENT

MANAGEMENT

- Quick identification
- Aggressive resuscitation
- Prompt consultation

AGGRESSIVE RESUSCITATION

- Establish good access
  - 2 large bore (ideally 18-gauge peripheral IVs)
  - in MICU, may place triple-lumen or Cordis
- Replace intravascular volume
  - if hypotensive and/or orthostatic, give NS boluses
  - if anemic, give PRBCs
  - may need FFP and/or platelets if massive GI bleed

- Nasogastric intubation, NG lavage
  - confirm NGT is in stomach (KUB)
  - inject 250cc NS, then draw 250cc back or place to wall suction
  - can be repeated for up to total of 2L
  - stop when fluid is clear (or when reach 2L)

Contraindications

- facial trauma, nasal bone fracture
- known esophageal abnormalities (strictures, diverticuli)
- ingestion of caustic substances, esophageal burns

PHARMACOLOGY

PROTON PUMP INHIBITORS

PPI bolus of 80mg, then drip at 8mg/hr

- has been shown to accelerate resolution of bleeding and decrease need for therapy during EGD

OCTREOTIDE (SOMATOSTATIN ANALOGUES)

- IV infusion of octreotide at 25–50 µg/hour for a minimum of 24 hours
- In patients with documented esophageal varices and acute upper GI bleeding should receive in monitored bed.
- Octreotide is a useful addition to endoscopic sclerotherapy and decreases rebleeding occurrences.

H Pylori Treatment

	Side Effect Rating	Cure Rate
Three Drug Regimens		
Clarithromycin + Metronidazole + PPI	medium	80-90%
Amoxicillin + Clarithromycin + PPI	medium-low	80-90%
Amoxicillin + Metronidazole + PPI	medium	80-90%
Combination Products		
Helidac + H2 blocker	medium-high	80-85%
Prevpak	low-medium	81-92%

http://www.drugdigest.org/DD/Comparison/NewComparison/0,10621,550540-21,00.html

SURGICAL TREATMENT

NON VARICEAL

- Reserved for patients with failed medical management
- Nature of operation depends on cause of bleeding (most commonly performed in context of bleeding peptic ulcer: DU>GU)
- E.g. Under-running of ulcer (bleeding DU), wedge excision of bleeding lesion (e.g. GU), partial/total gastrectomy (malignancy)

VARICEAL BLEEDING

- Suspect if upper GI bleed in patient with history of chronic liver disease/cirrhosis or stigmata on clinical examination

- Liver Cirrhosis results in portal hypertension and development of porto-systemic anastamosis (opening or dilatation of pre-existing vascular channels connecting portal and systemic circulations)

PHARMACOLOGY

- Somatostatin/octreotide – vasoconstricts splanchnic circulation and reduces pressure in portal system
- Terlipressin – vasoconstricts splanchnic circulation and reduces pressure in portal system
- Propanolol – used only in context of primary prevention (in those found to have varices to reduce risk of first bleed)

SURGICAL TREATMENT

- Endoscopy
  - Band ligation
  - Injection sclerotherapy

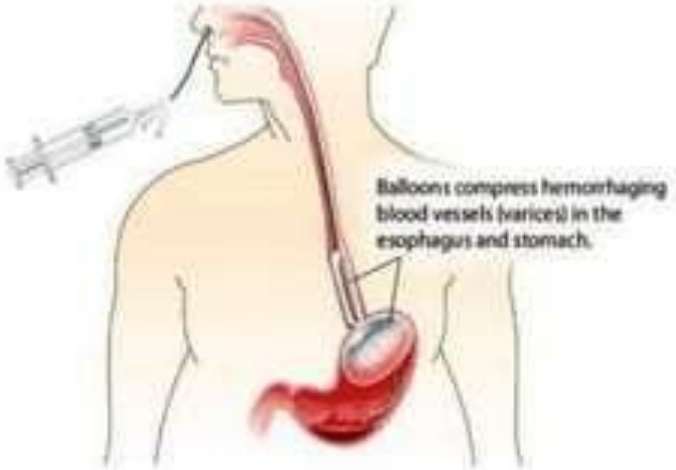
- Balloon tamponade – sengstaken-blakemore tube
  - Rarely used now and usually only as temporary measure if failed endoscopic management

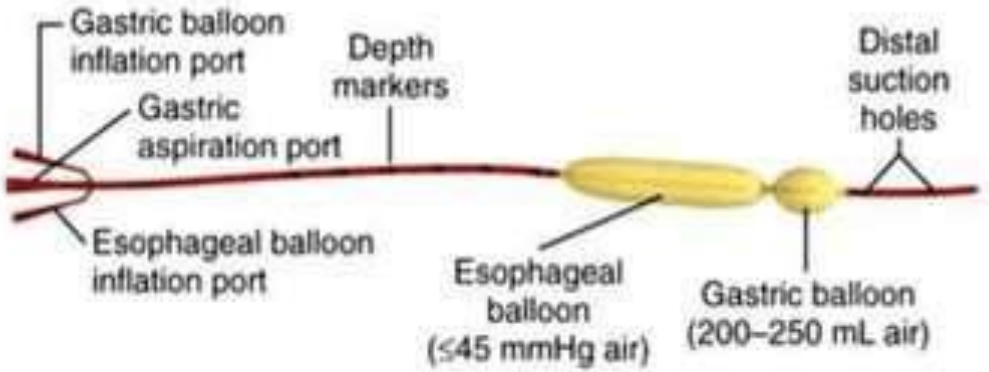
EMNote

Sengstaken-Blakemore Tube

To stop UGI bleed from esophageal varices (EV)

- Routine ETT intubation before SB tube
- Inflate gastric balloon in 2 steps: 50cc → X-ray → 200-250cc
- 1-kg traction: gastric balloon compress GE junction → reduce EV blood flow
- Inflate esophageal balloon (< 45mmHg) if traction failed to stop bleeding
- Esophageal balloon should not remain inflated > 6 hours (avoid necrosis)
- Admit to ICU: esophageal or gastric ruptures are not uncommon





- Radiological procedure – used if failed medical/endoscopic Mx
  - Selective catheterisation and embolisation of vessels feeding the varices
  - TIPSS procedure: transjugular intrahepatic porto-systemic shunt
    - shunt between hepatic vein and portal vein branch to reduce portal pressure and bleeding from varices): performed if failed medical and endoscopic management
    - Can worsen hepatic encephalopathy
- Surgical
  - Surgical porto-systemic shunts (often spleno-renal)

CONCLUSION

Gastrointestinal bleeding (**GI bleed**), also known as **gastrointestinal hemorrhage**, is all forms of bleeding in the gastrointestinal tract, from the mouth to the rectum. An upper GI bleed is more common than lower GI bleed. leading is typically divided into two main types: upper gastrointestinal bleeding and lower gastrointestinal bleeding. Initial treatment focuses on resuscitation which may include intravenous fluids and blood transfusions. Endoscopy of the esophagus, stomach, and duodenum or endoscopy of the large bowel are generally recommended within 24 hours and may allow treatment as well as diagnosis.

THANKS FOR TAKING TIME OUT

I KNOW YOUR TIME IS VALUABLE

AND I APPRECIATE YOU SPENDING SOME OF IT WITH ME!