## LOWER GIT BLEEDING

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#### **Mission Statement**

To impart evidence-based research-oriented health professional education Best possible patient care Mutual respect, ethical practice of healthcare and social accountability.

#### **Vision and Values**

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable. Goals

The Undergraduate Integrated Learning Program is geared to provide you with quality medical education in an environment designed to:





# PROF UMER MODEL OF INTEGRATED LECTURE





# Learning Objectives:

At the end of this lecture you must know:

- ° difference between upper and lower GI bleeding
- ° causes of lower GI bleeding
- Clinical presentation
- how to investigate patient with LGI bleed
- differential diagnosis
- Risk factors
- complications
- Management

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# Introduction

- Lower gastrointestinal bleeding occurs distal to the ligament of Treitz and may involve the small bowel, colon, and rectum.
- Lower gastrointestinal bleeding is less common than upper and accounts for approximately 30% of all gastrointestinal bleeding and the rates here are affected by the H Pylori prevalence.

• The H Pylori prevalence is affected by the socioeconomic factors.

• Lower gastrointestinal bleeding tends to affect the elderly patients and is more

likely to occur in an 80 years old than in a 20 years old patient.



## Incidence:

Lower GI bleeds are fairly common and account for 20% to 30% of all patients with major GI bleeding. The incidence is higher in older patients and patients taking multiple medications. Approximately 80% to 85% of lower GI bleeds originate distal to the iliocaecal valve , with only 0.7% to 9% originating from the small intestine .

### GASTROINTESTINAL BLEEDING



# **Clinical presentation:**

Hematochezia: is the passage of fresh blood per anus.
Which can range from bright red to old clots.

• Melena: is the passage of black, tarry stools. If the bleeding is slower or from a more proximal source.

# Bleeding per rectum

- ° Bright red stool :Piles/polyps/fissure
- Altered blood: cancer/ ulcer/ IBD/ dysentery
- Maroon color: Meckle's diverticulum
- ° Streaks of blood: Anal fissure
- Splash in pain: Piles
- Red currant jelly: Intussusception
- ° Blood with mucus: Colitis/ Cancer / Dysentery

### Bleeding in Stool

Relationship to defecation:

1- Initial / before defecation: external-anal fissures, trauma, abscess.

2- Terminal / after defecation: hemorrhoids 3-mixed/total: higher up tumors,vascular,polyps

Associated symptoms:

1-pain

2-mucus-inflammation/infection/tumors 3-abdominal symptoms- cramping pain 4-symptoms related to primary cause- cancer

### Categorization of (LGI) bleeding by intensity:

<u>Massive Bleeding</u>: Presents as a large volume of bright red blood PR bleeding > 1.5 L/day, hemodynamic instability and shock decrease in hematocrit level of 6g /dl

Common causes: Diverticula / Angiodysplasia/ Ischemic colitis transfusion of at least 2 units of blood bleeding that continues for 3 days.

<u>Moderate Bleeding:</u> present with any age, presents as hematochezia or melena, hemodinamically stable.

cause: anorectal,congenital,inflammatory, and neoplastic diseases. initial decrease in hematocrit level of 8g /dl or less.

### • Occult Bleeding

- Detected by routine chemical tests of the stool, with or without systemic evidence of chronic blood loss.
- 5ml of blood loss/day is necessary to have stool occult positiv





### Colonoscopy Normal



Pedunculated polyp



Flat Polyp



Familial adenomatous polyposis





Giant Polyp



Giant Polyp



Giant Polyp



Multiple Polyps of the Colon

## noscopy – Bleeding diverticulum



### Anoscopy - Internal hemorrhoid



### Internal hemorrhoid



### Acute lower GI bleeding:

Bleeding of recent duration< 3days, that may result in hemodynamic instability, anemia, and/ or the need for blood transfusion.

### Chronic lower GI bleeding:

Bleeding over several days or longer, and usually intermittent or slow loss of blood. Patients present with occult fecal blood intermittent melena or maroon stools, or scant amounts of bright red blood /rectum.





### Meckel's Diverticulum

### Solitary ulcer of rectum

# causes of sub acute /Chronic

Anal diseases

Inflamatory bowel disease

Large polyp

• Carcinoma

solitary rectal ulcers

° radiation enteritis

1- small intestine:

Polyp/Meckel's diverticulum/ulcers/ tumors/ intussuception

2-large intestine: Angiodysplasia/ carcinoma/ colitis/ diverticulitis

3-perianal: Injury/ rupture (anorectal abscess)/ candyloma/carcinoma

4-Anal: Piles/ anal fissure/ carcinoma/ fistula in ano

Past medical history: prior GI bleeds, ulcers, H. pylori, diverticulitis, hemorrhoids, IBD

Medications: NSAIDs, anticoagulants, antiplatelet agents, iron supplements

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Social history: smoking, heavy alcohol use

Comorbid conditions: cirrhosis, renal disease, cancer

Associated symptoms: dysphagia, weight loss, preceding emesis, change in bowel habits

# Start the physical examination with the ABCs:



Physical exam component	Exam finding	Significance
Resting tachycardia	HR > 90/min	Loss of < 15% total blood volume
Orthostatic hypotension	Decrease in SBP $\ge$ 20 mm Hg or DBP $\ge$ 10 mm Hg from supine to standing position	Loss of > 15% total blood volume
Supine hypotension	Supine BP $\leq$ 90/60 mm Hg	Loss of $\ge$ 40% total blood volume
Abdominal exam	Rebound, involuntary guarding, extreme pain to palpation	Peritoneal signs may indicate perforated viscus or bowel ischemia
Rectal exam	Bloody or melanotic stool	Check for anal fissure, hemorrhoids, masses, and gross blood on stool °exam

## Investigations:

Complete blood count (CBC) for drop in Hgb or low platelet count (initial Hgb may be normal due to delay in equilibration after blood loss)

Basic metabolic panel (BMP) for azotemia, or high BUN:Cr ratio (elevated in upper GI bleed – usually > 30:1)

Liver Panel (LFT) for low albumin

Coagulation factors (INR, PT, PTT) for coagulopathy

Elevated lactate (end organ dysfunction)

# Diagnostic modalities for LGI Bleeding

 <u>Colonoscopy</u>- Full length colonoscopy is the most important investigation. It helps in visualising from rectum to last 10-15cm of terminal illeum.









- Therapeutic uses are
- 1. Electro-cauterization of bleeding points
- 2. Polypectomy
- Diagnostic uses are
- 1. Imaging
- 2. Biopsy of the lesion





Ulcerative colitis



### Crohn's disease



CA colon with bleeding



Diverticulosis

9

# colonic angiodysplasia & colonic varices



# Rectal CA



# Ischemic colitis



### What to Expect During a Barium Enema





Figure 69.45 Double-contrast barium enema showing megarectum and a huge megasigmoid with normal left colon alongside for comparison [courtesy of Dr D Nolan, John Radcliffe Hospital, Oxford, UK].



Figure 69.36 Barium enema showing sigmoid diverticular disease 'sawteeth' and diverticula (courtesy of Dr D Nolan, John Radcliffe Hospital, Oxford, UK).



Figure 69.11 Small bowel enema examination showing a narrowed terminal ileum involved with Crohn's disease – the 'string' sign of Kantor.

## **Differntial Diagnosis:**

- 1- Anorectal abscess.
- 2- Colitis.
- 3- Colon cancer.
- 4- Crohn disease.
- 5- Diverticulitis.
- 6- Endometriosis.
- 7- Inflammatory bowel disease (IBD).
- 8- Intussusception
- 9- Meckel diverticulitis

### Risk Factors of lower GI bleeding:

1-age(> 60 years old)

2-overuse of nonsteroidal anti-inflammatory drugs, which can irritate the lining of the GI tract.

3-chronic constipation, which may lead to straining and hemorrhoids.

4- family history of conditions that damage the lower GI tract, such as IBD.

5-blood or bleeding disorders, or a family history of these disorders

6-activities that could potentially cause rectal tears.

### **Complications :**

lower GI bleeding may cause complications if left untreated due to blood loss and the complications include:

- 1- anemia
- 2-respiratory distress
- 3-heart attack
- 4-infection
- 5-shock
- 6-death

## Management and Treatment

- Resuscitation: IV fluids
- Nasal O2
- NG tube
- urine Catheterization
- HDU monitoring
- Vitamin K
- CVP monitoring

### Treatment :

1- proton pump inhibitors (to reduce acid secretion in the stomach to slow the rate of bleeding).

2-reversal agents for anticoagulants.

### Golden Standard for a therapeutic control

Endoscopy: ligation/clipping/cautery/ injection Angiogram: embolism Surgery: open exploration/ segmental resection/ total colectomy Hartmann procedure/ colostomy

## Case study : 1

An elderly woman is found anemic. As part of her examination, she had a barium enema which reveals a mass lesion in the ascending colon. What is the single most appropriate diagnosis?

- 1- Sigmoid volvulus
- 2- Anal fissure
- 3- Sigmoid carcinoma
- 4- Cecal carcinoma
- 5- Diverticular disease

Answer : (D) cecal carcinoma. (Mass in assending colon and anemia makes cecal carcinoma the likely diagnosis )



## Case study : 2

A 57 years old male presents with sudden onset severe abdominal pain and rigidity against a 4 days background of LIF ( left iliac fossa) pain and pyrexia. He has no past medical or surgical history of note and isn't on any medicine. What is the most likely diagnosis?

- 1- Intussusception
- 2- Ischemic colon
- 3- Sigmoid volvulus
- 4- Perforated diverticulum
- 5- Perforated Mackle's diverticulum

46

Answer: (D), perforated diverticulum. { sudden onset, severe abdominal pain, rigidity, left iliac fossa pain and fever are in favor of perforated diverticulum }



Fig.3: Intra-operative image clearly demonstrating the perforation in the diverticulum.

### Case study:3

A 29 years old young man presents with continuous of recurrent attacks of diarrhea. He says his stools contain blood and mucus. Sometimes he has low grade fever. What is the most appropriate investigation for his condition?

1- stool culture

- 2- plain abdominal X-RAY
- 3- per rectal exam
- 4- barium enema

Answer: (D). Barium enema. { feature are suggestive of IBD, so barium enema is the most relevant investigation among the given options. Barium contrast dyes allows an evaluation of the intestines. This is more commonly used in severe IBD to rule out serious complications like a perforated colon}

### Prevention of recurrent lower GI bleeding:

• \*Avoid non-aspirin NSAID use in the patients with a history of acute LGIB .

\*Don't discontinue aspirin for secondary prevention in patients with high-risk cardiovascular disease and a history of LGIB.

### References:

- Bailey and love short practice of surgery 27th edition.
- European Society Of Gastrointestinal Endoscopy.

