

# Lower Gastro-Intestinal Bleeding

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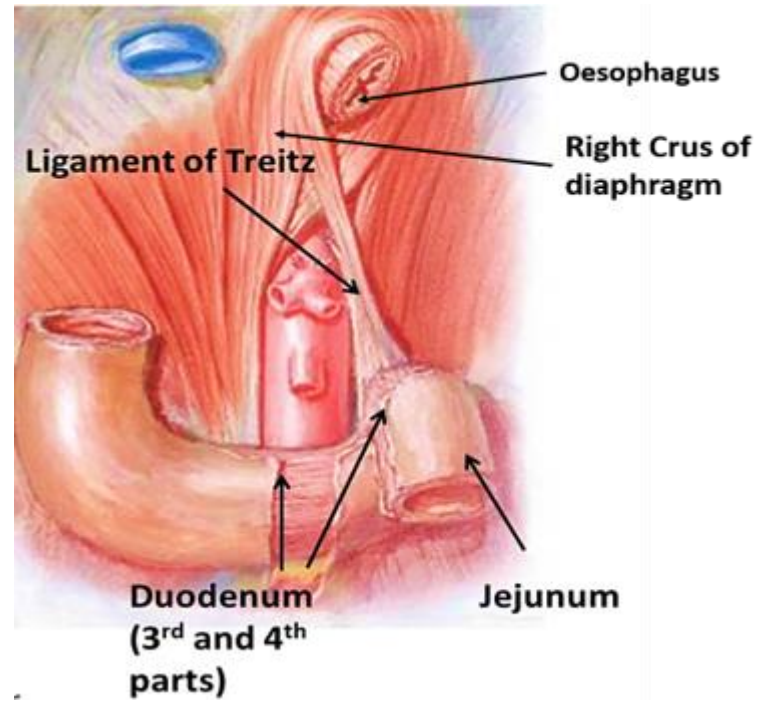
Jordan University Hospital

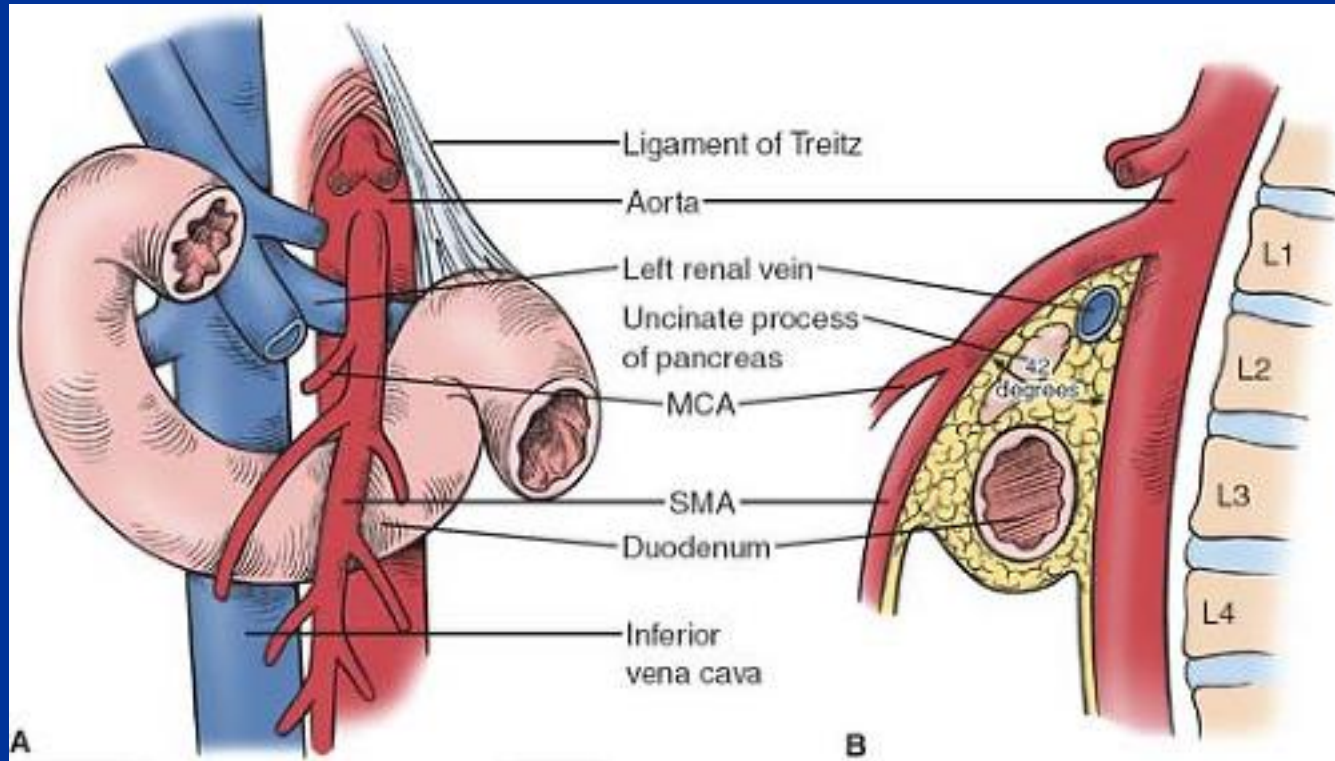
# Lower GI Bleeding

## Definition:

Blood originating from below the ligament of Treitz.

# Ligament of Treitz





Ligament of Treitz: A fibromuscular band that originates from the right diaphragmatic crus and fixes the duodenal–jejunal flexure.

# Lower GI Bleeding

Bleeding source:	Frequency:
Diverticula	30 - 40%
Colitis (Ischemic, IBD)	15 - 20%
Carcinoma, Polyps	13%
Angiodysplasia	10%
Anorectal diseases	10%
Upper gastrointestinal bleeding	10 - 13%
Unknown	2 - 8%

# Mid GI Bleeding

Bleeding source:	Frequency:
Angiodysplasia	20 - 60%
Ulcerations (IBD, NSAIDs)	10 - 40%
Neoplasia	1 - 10%

# Clinical presentation

Fresh Blood in the stool implies a lower GI cause unless there is very rapid bleeding from an upper GI source (hemodynamic instability + ↑↑ blood urea).

Blood in the bowel for over about 14 hrs is converted to melena (up to 35% of patients with melena have a bleeding point distal to duodenal–jejunal flexure).

The patient may be hypotensive and shocked without overt evidence of bleeding → Always do a rectal exam.

# Diagnosis / History

There may be a history of:

Hemorrhoids,

IBD,

Radiation,

Iatrogenic causes

(bleeding from polypectomy can be delayed up to 10 days).



# Diagnosis / History

Ask about:

Prior episodes

Presence of liver or renal disease

Drug usage:

(Antiplatelet drugs, NSAIDs, Warfarin).

# Diagnosis / History

Ask whether the blood is mixed with or separate from the stool

(bright red blood suggests an anorectal cause)

and

About any associated change in bowel habit.

# Diagnosis / History

In the West, common causes include:

Bleeding from diverticula (40%),

Colitis (infectious, ischemic & IBD) (20%),

Benign anorectal disease (10%),

Angiodysplasia

# Diagnosis / History

Rare causes include:

Radiation,

Meckel's diverticulum ,

Varices.

# Diagnosis / Investigation

Lower GI Bleeding



Stops spontaneously

Continued bleeding



Elective colonoscopy

Urgent colonoscopy

±

±

EGD

EGD

# Diverticular Bleeding

Large volume

Brisk

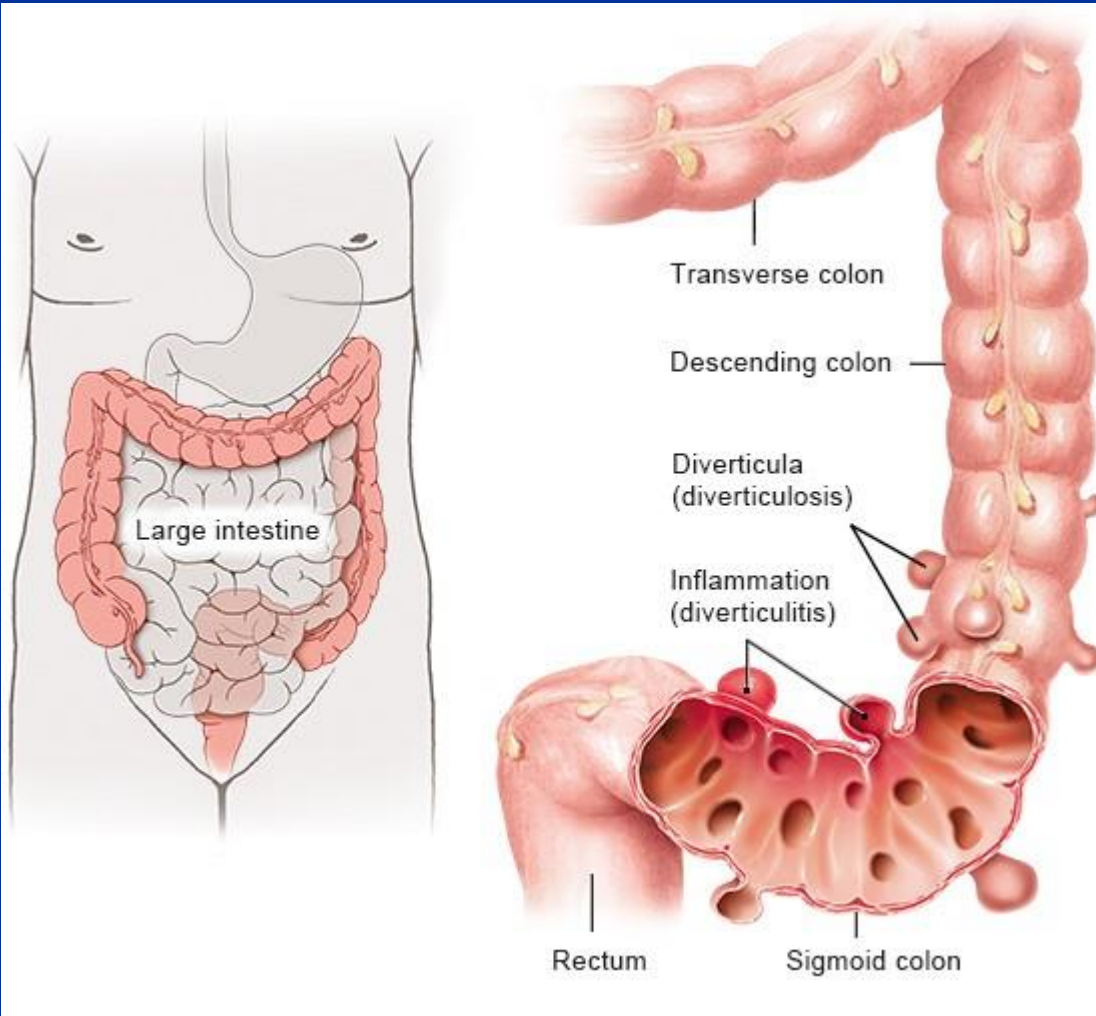
Painless

# Diverticular bleeding

Local trauma to the vasa recti within diverticula can lead to arterial bleeding.

Diverticular bleeding is the commonest cause of acute massive colonic blood loss.

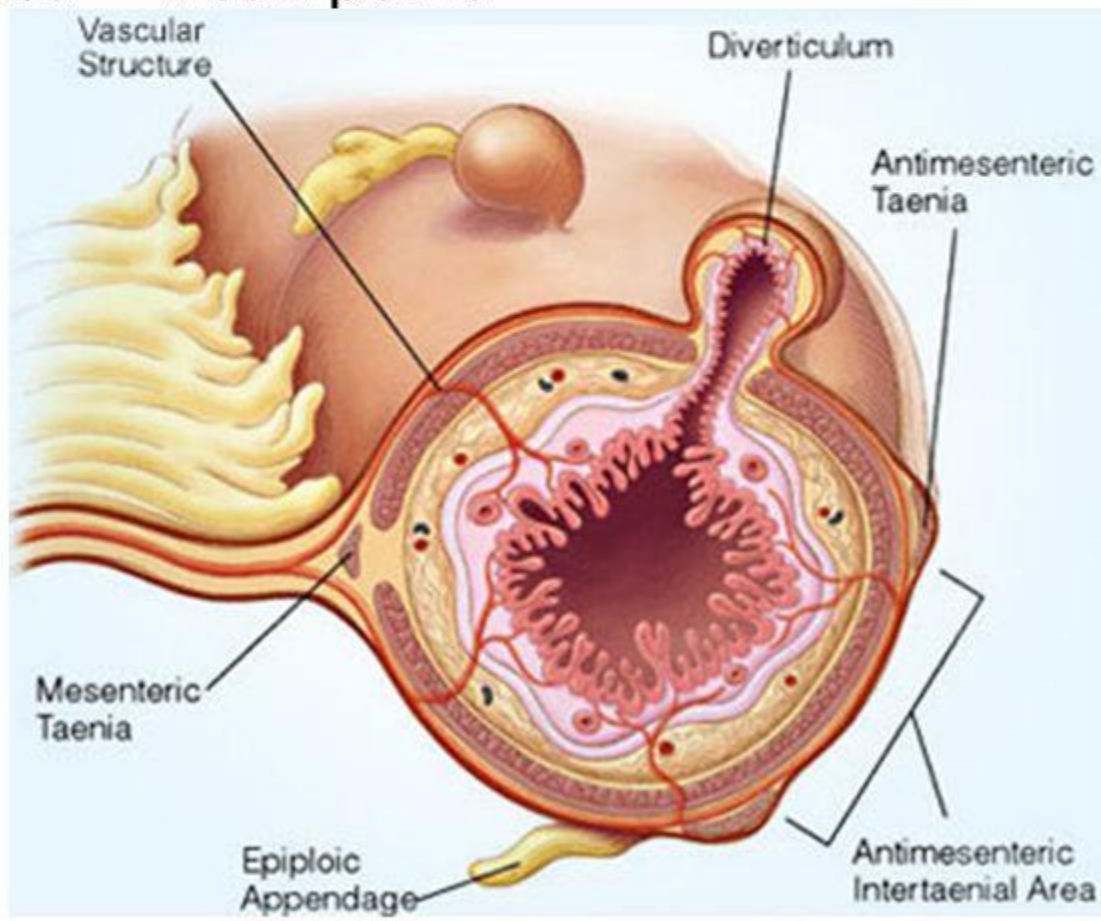
Although bleeding may stop spontaneously, rebleeding is common and often comes from the right colon, even though most diverticula are left-sided.





# Colonic Diverticula

- False Diverticula
- Arteries penetrate the muscularis to reach the submucosa and mucosa – weak point



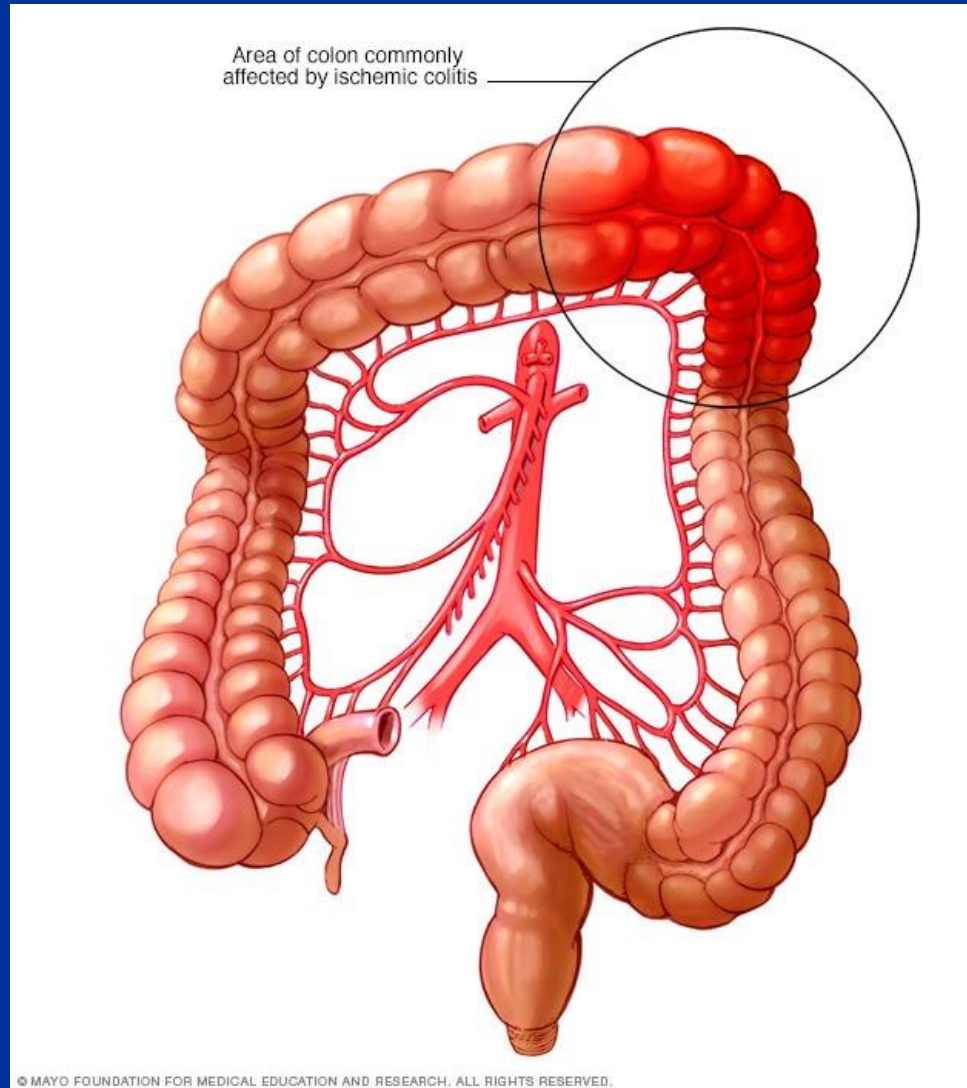
# Ischemic Colitis

Low flow states

>>

Embolization  
or  
Thrombosis

# Watershed Area



# Ischemic Colitis

## Clinically:

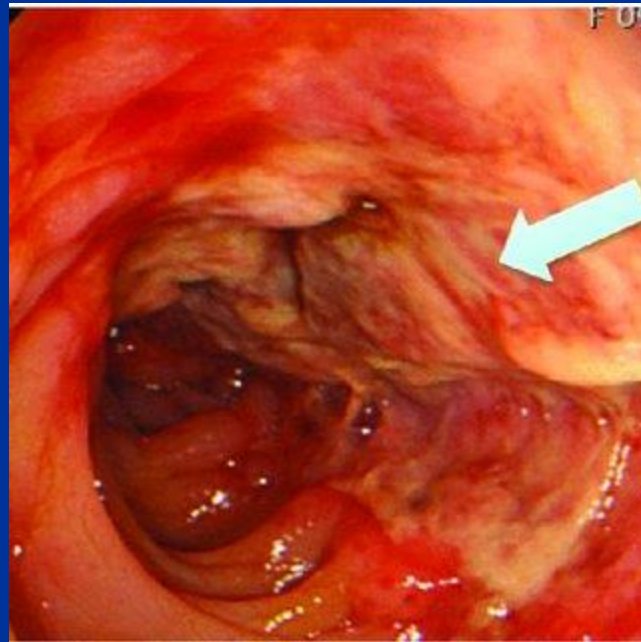
Sudden onset cramping pain in left lower quadrant, with bloody stools, and mild to moderate abdominal tenderness.

## Diagnosis:

X-Ray: classical “thumbprinting” (submucosal hemorrhages/edema)

Contrast-enhanced CT scan and careful endoscopy

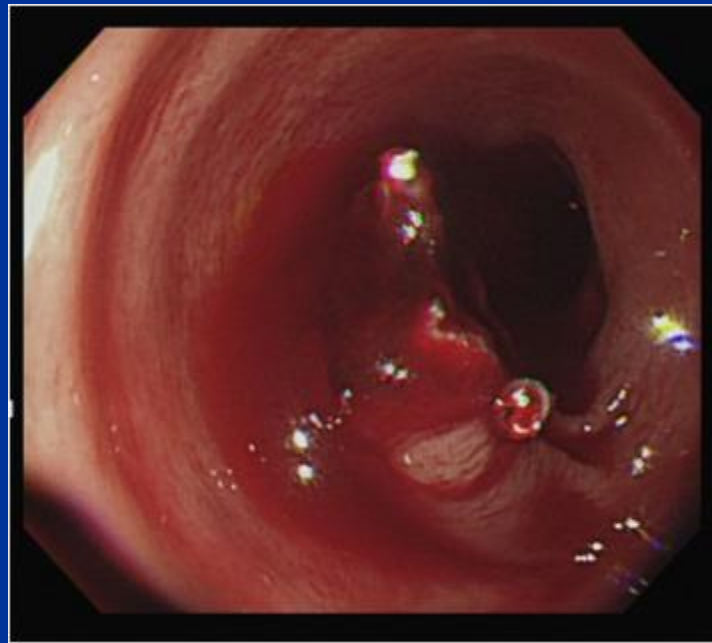
# Ischemic Colitis



# Bleeding Colonic Polyp



# Post Polypectomy Bleeding



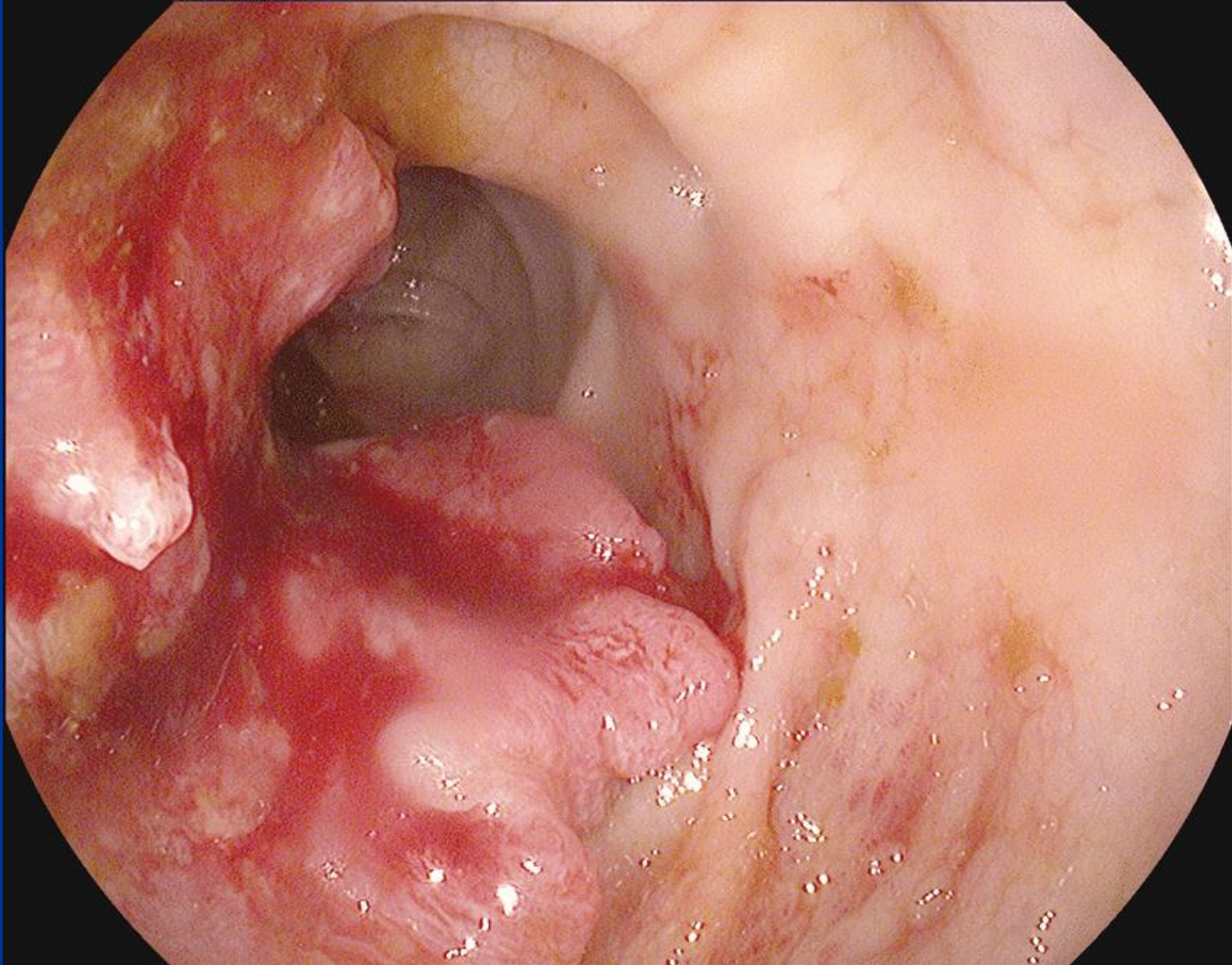


# Infectious Colitis





# Colonic Tumor Bleeding



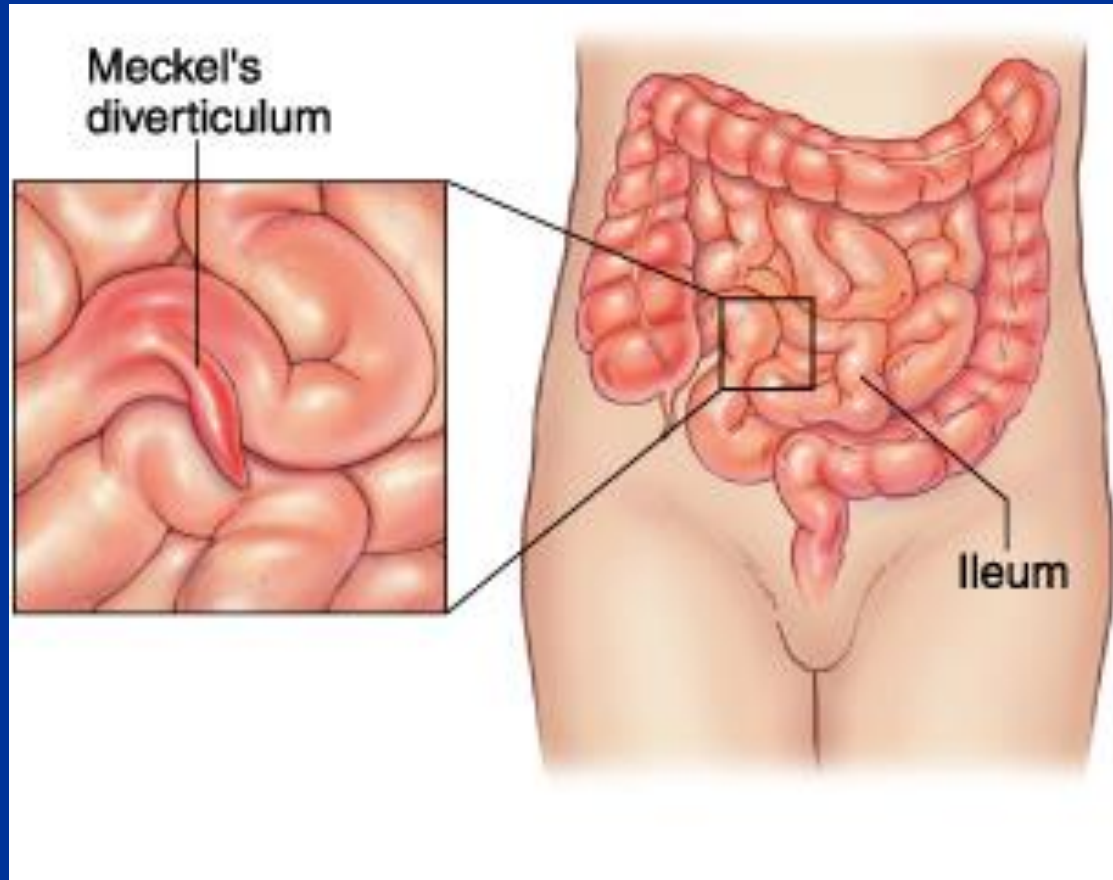
# Ulcerative Colitis Flare Bleeding



# Radiation Colitis



# Meckel's Diverticulum



# Meckel's Diverticulum

Meckel's diverticulum occurs in a fetus early in the pregnancy. Normally, the vitelline duct, which connects the growing fetus with the yolk sac, is absorbed into the fetus by the seventh week of the pregnancy. When the vitelline duct is not fully absorbed, a Meckel's diverticulum develops.

A Meckel's diverticulum may contain cells from both the stomach and pancreas. Cells from the stomach can secrete acid, which can cause ulcers and bleeding.



# Meckel's Scan

IV Technetium-99m



Uptake



Gamma Camera

# Treatment

Usually directed towards treating the cause

# Treatment

## Endoscopic:

- Arterial Lesions:

Electrocoagulation (Heat Probe)

Mechanical endoscopic techniques (Hemostatic Clipping)

Arterial Vasoconstriction (Adrenaline Injection)

Snare Polypectomy/Endoloop

- Angiodysplasia:

Argon Plasma Coagulation (APC)

## Interventional Radiology:

Angiography with Selective Embolization

## Surgery:

The success and postoperative bleeding rate depends on accurate pre-operative localization (Mortality 5–10%)



# Management of diverticular bleeding

Resuscitation → diagnose and locate the source of bleeding → treat the cause



Colonoscopy



If colonoscopy is unsuccessful & Bleeding is Massive



hemodynamically stable

hemodynamically unstable

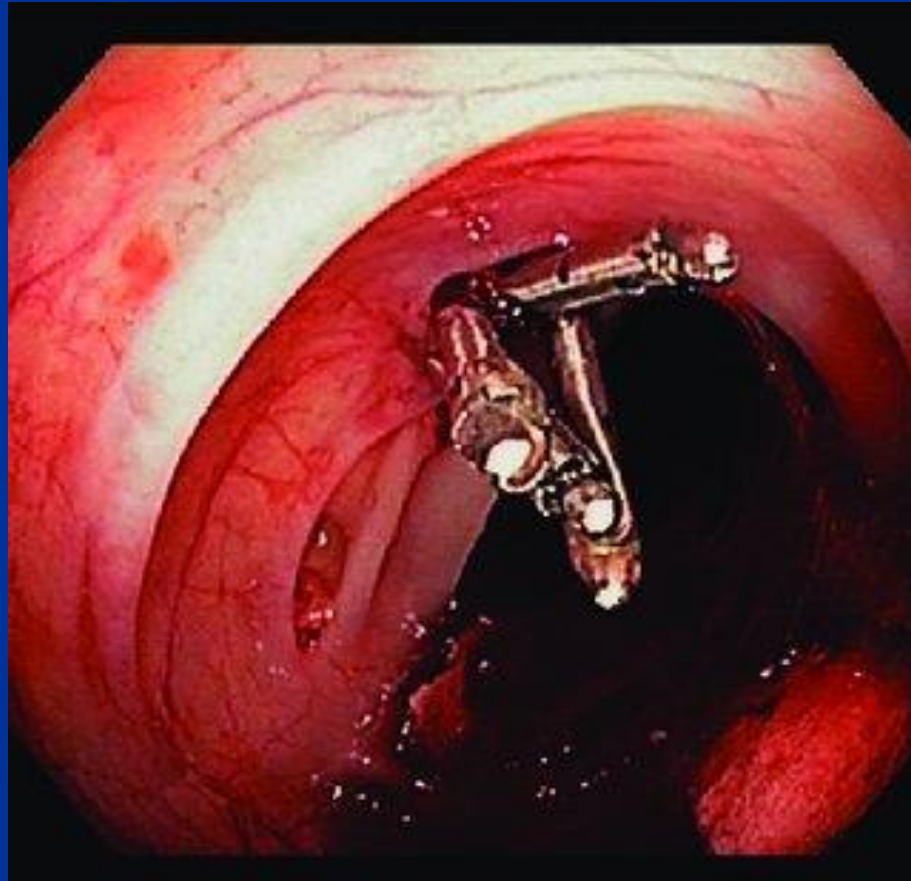


Angiography



Surgery

# Clipping of Diverticular Bleeding



# Angiography



# APC treatment for Radiation Colitis



# Treatment

Medical:

- IBD Flare:

IV Hydration, IV Steroids & IV Antibiotics

- Infectious Colitis:

IV Hydration & IV Antibiotics

- Ischemic Colitis:

If there is no sign of perforation or infarction:



Bowel rest,  
IV Hydration  
± IV Antibiotics

& Correction of underlying condition

(More than 50% resolve on conservative management)

If there are signs suggestive of perforation or infarction



increasing tenderness, fever, ileus



Surgery