

Lower Gastro-Intestinal Bleeding

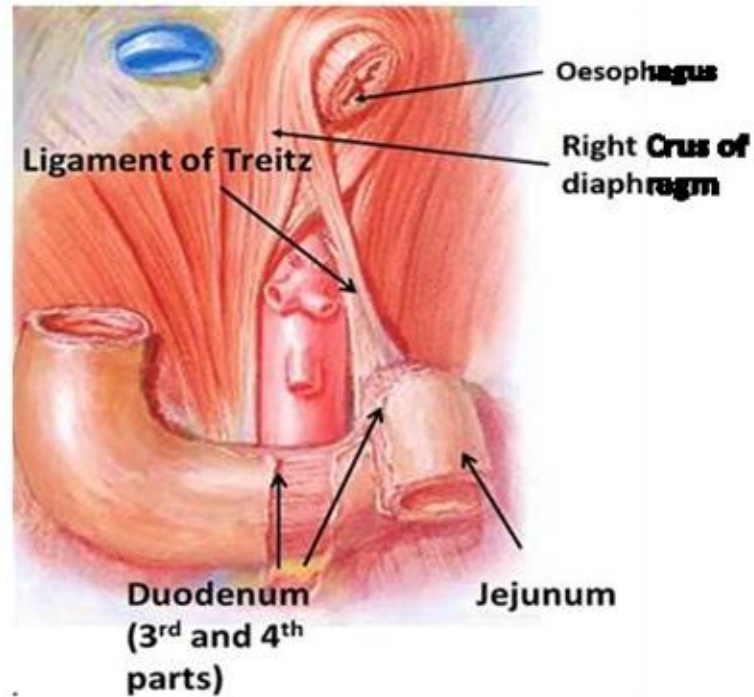
Edited by: Ruaa Adeib

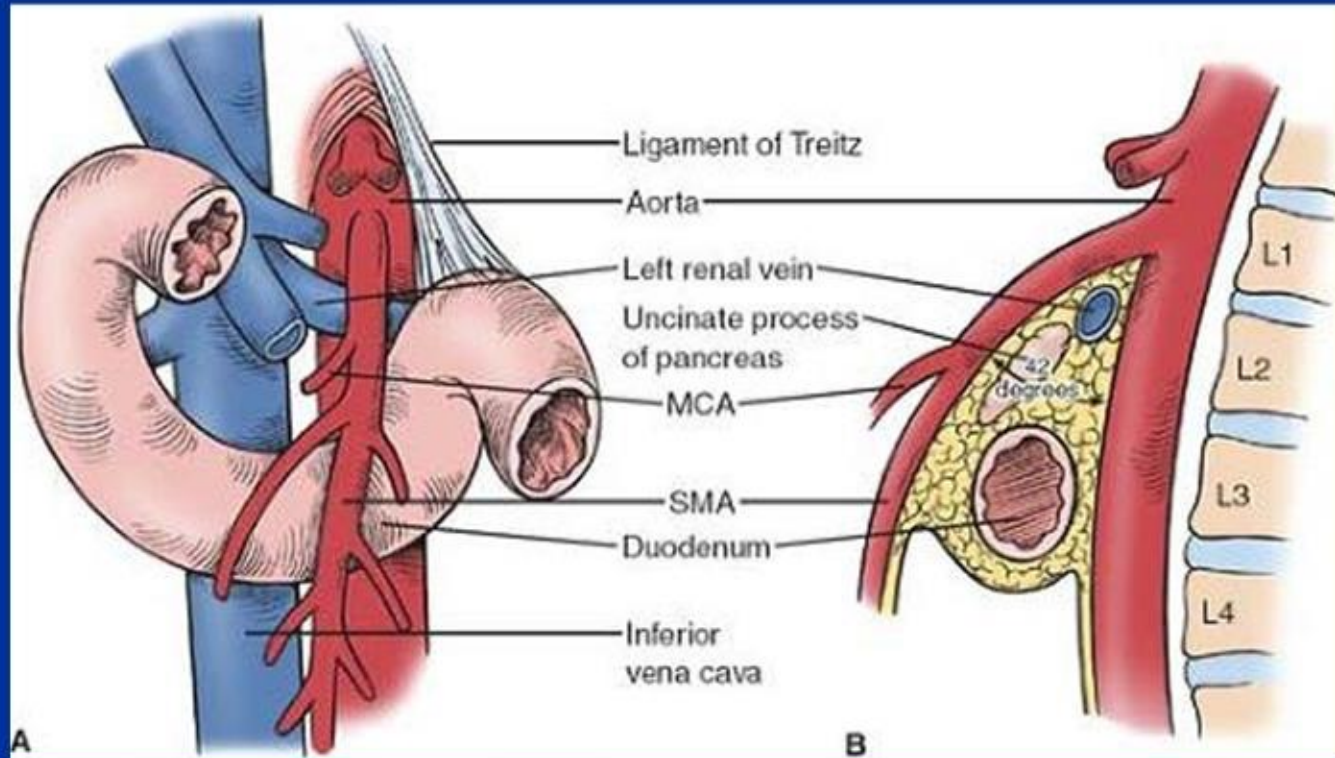
Lower GI Bleeding

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.

* urea is higher in upper GI bleeding

& the pt. pulse is tachy.

* Lower urea level in lower GI bleeding & the pt has normal vitals.

Lower GI Bleeding

Bleeding source:	Frequency:
* Diverticula	30 - 40%
* Colitis (Ischemic, IBD) or NSAID use	15 - 20%
Carcinoma, Polyps	13%
Angiodysplasia	10%
Anorectal diseases Anal fissures, hemorrhoids	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%

↳ Intestinal bleeding (Jejunum, ileum → small bowel)

tumor in cecum $\Rightarrow$ Melena
* blood induce bowel movement
↳ causes diarrhea

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 + $\uparrow$ blood urea).

يتأكسد 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 $\rightarrow$ Always do a rectal exam.

Diagnosis / History

There may be a history of:

Hemorrhoids,

IBD,

Radiation, → radiation colitis → bleeding / telangiectasia in gynecological or prostate pts.

Iatrogenic causes → any procedure

(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 ^{inflammation} mixed with or separate from the stool

^{usually anorectal source (hemorrhoids) → benign}
(bright red blood suggests an anorectal cause)

and

About any associated change in bowel habit.

↳ normal bowel habit is 2 times / day → 1 time every 2 days

↳ stool caliber

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 ,

Rectal Varices.

↳ portal HTN

Diagnosis / Investigation

Lower GI Bleeding

Stops spontaneously



Elective colonoscopy

±

EGD

Continued bleeding



Urgent colonoscopy

⊕ usually

EGD

Diverticular Bleeding

Large volume

Brisk شديـد متقطع

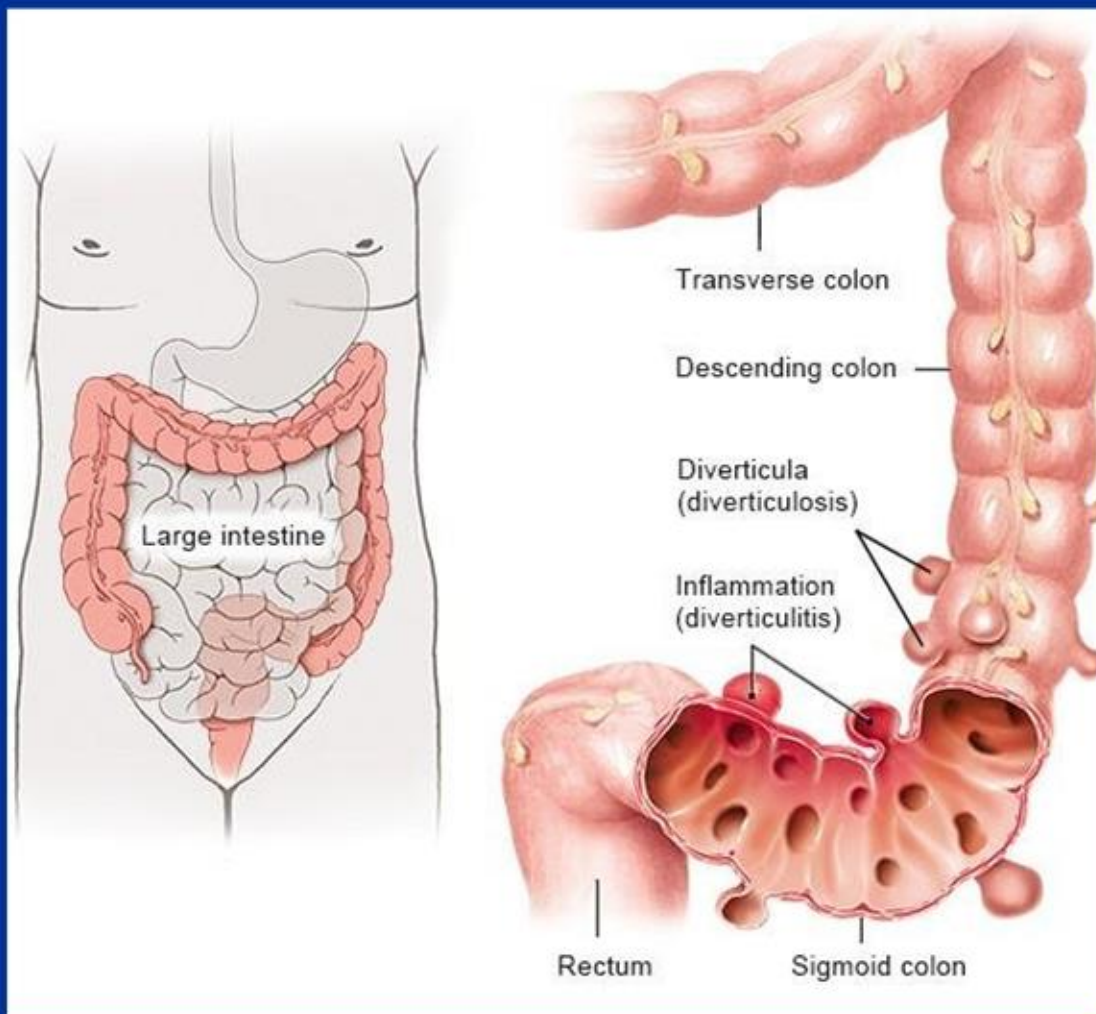
Painless

Diverticular bleeding

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

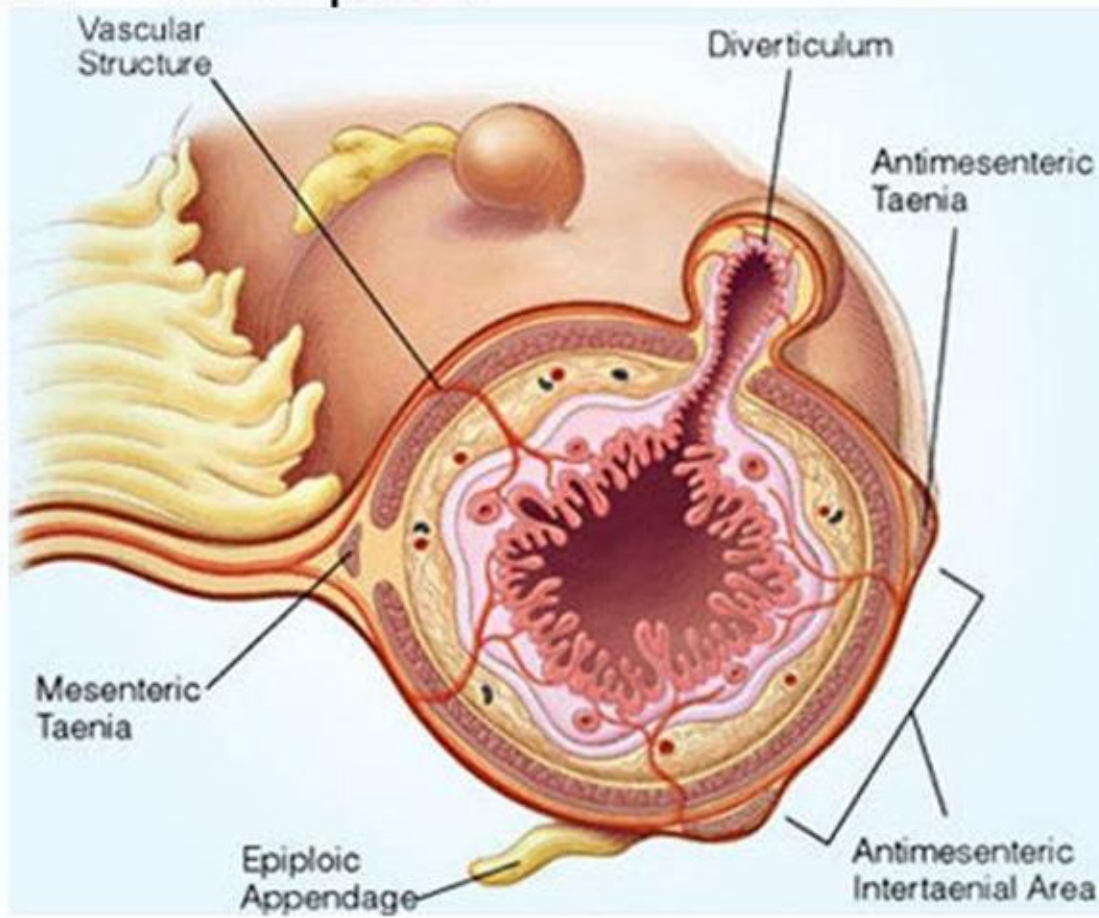
Diverticular bleeding is the commonest cause of acute massive colonic blood loss.

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

↳ to mucosa

>>

↳ Embolization

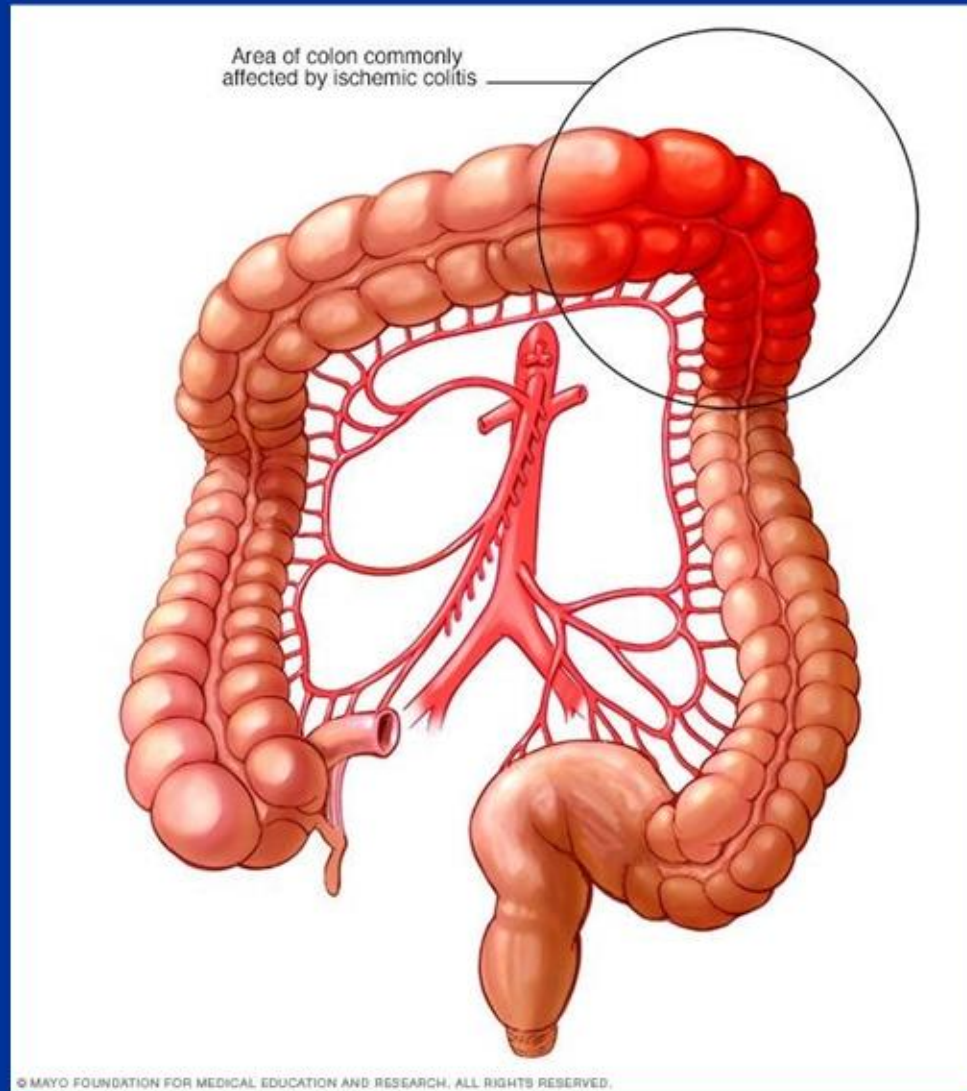
or

↳ Thrombosis

↳ Hypotension

Watershed Area

Two main areas in the colon, including **splenic flexure** (Griffiths point) and **rectosigmoid junction** (Sudek's point), are prone to ischemia.



Ischemic Colitis

Clinically:

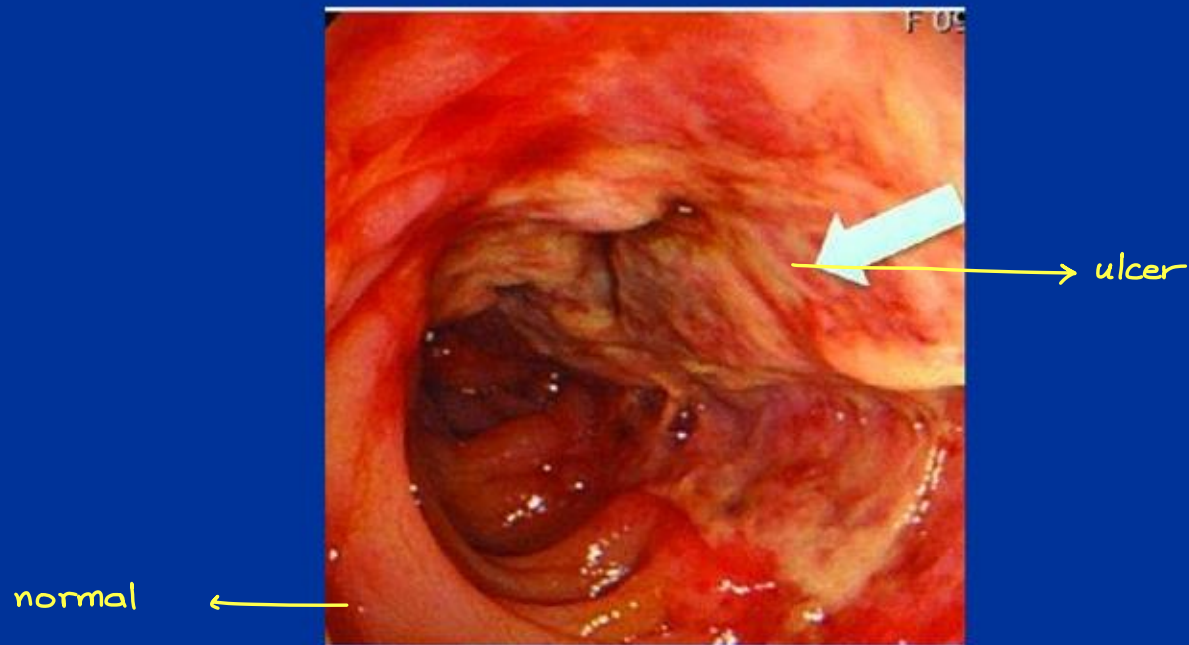
Sudden onset ^{severe pain} cramping pain in left lower quadrant, with bloody stools, and mild to moderate abdominal tenderness. → ^{soft abd. upon examination}

Diagnosis:

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

Contrast-enhanced CT scan and careful endoscopy

Ischemic Colitis



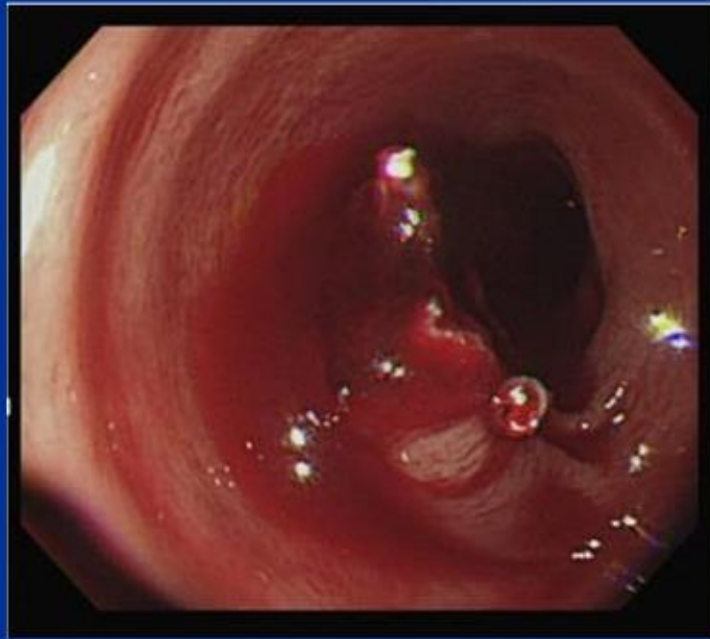
single stripe sign → single linear ulcer running along the anti-mesenteric colonic wall

Bleeding Colonic Polyp



Rapid growth rate

Post Polypectomy Bleeding



Infectious Colitis

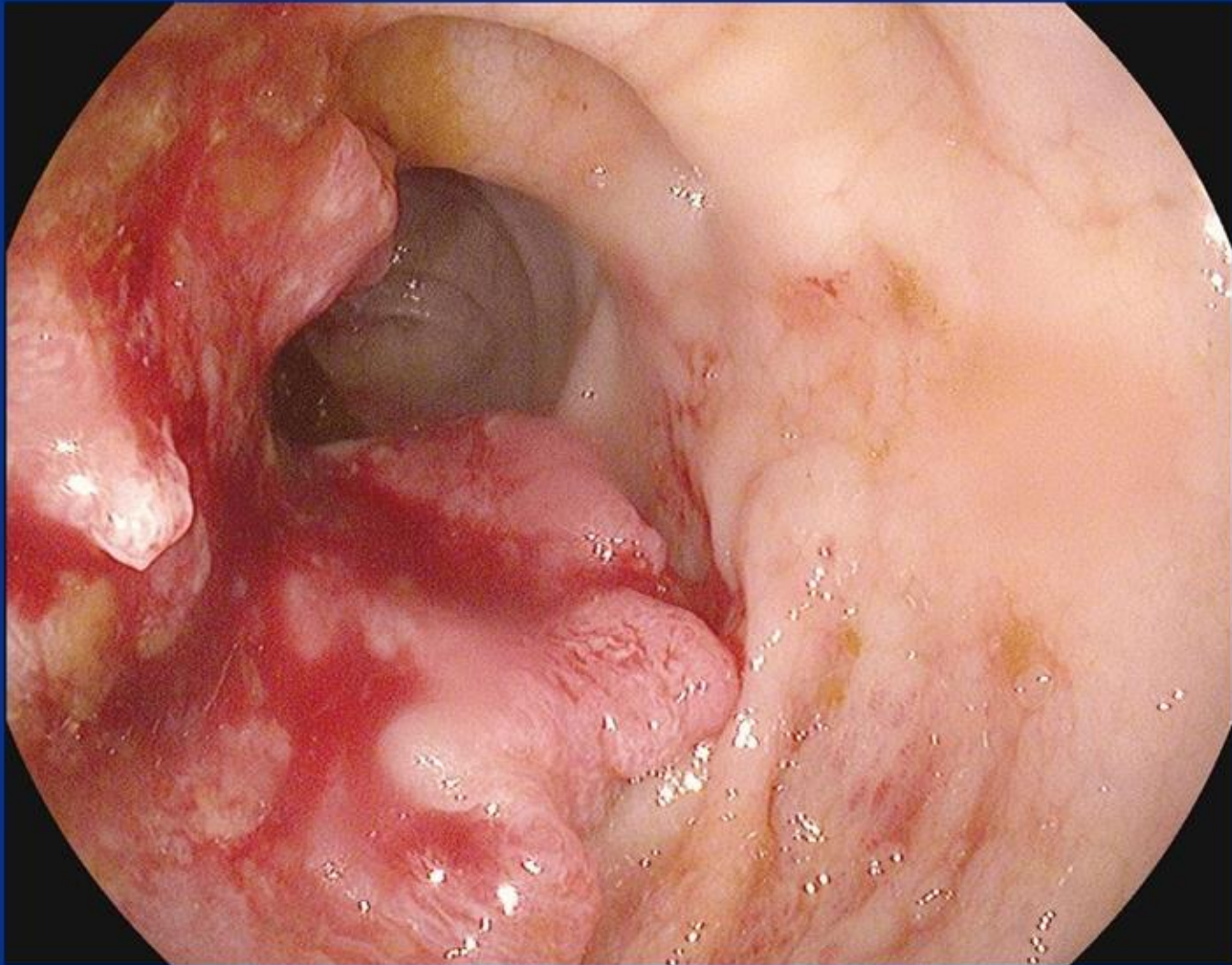


shigellosis

Enteroinvasive E-coli

Yersinia → can mimic IBD

Colonic Tumor Bleeding



Ulcerative Colitis Flare Bleeding

Significant

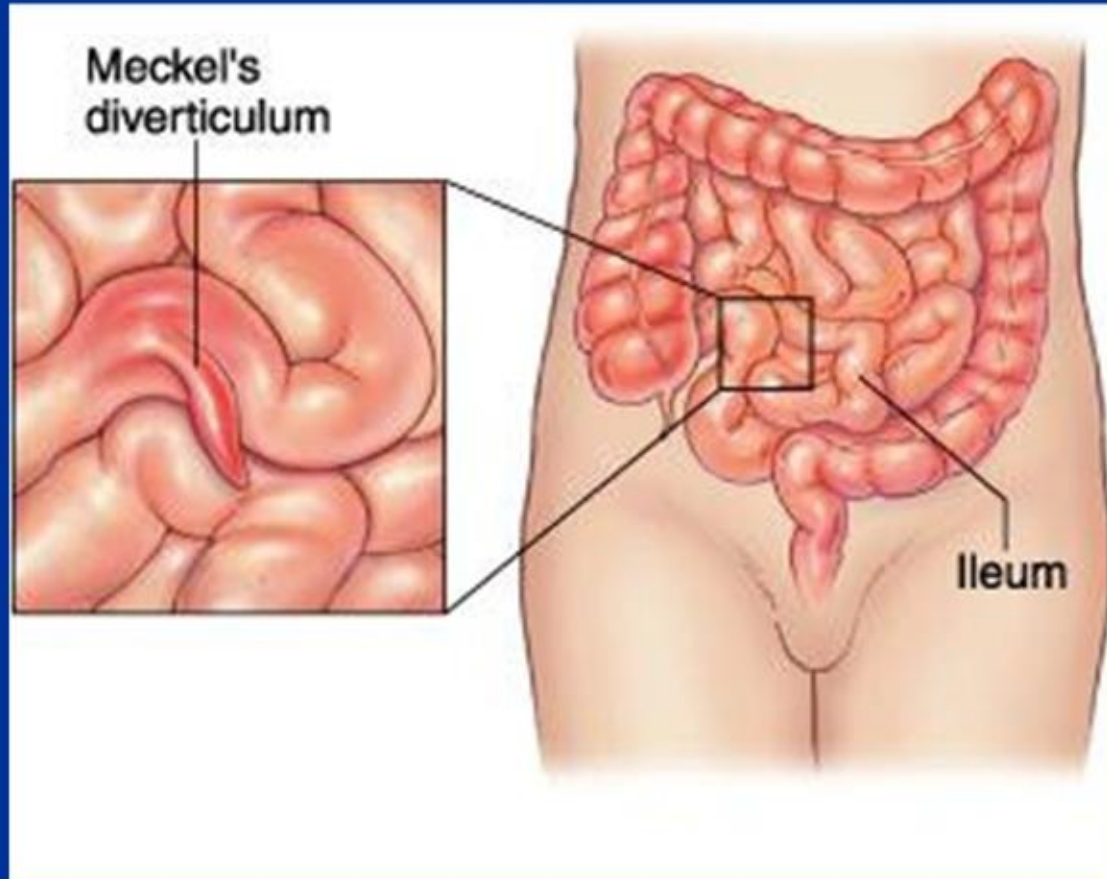


Radiation Colitis



↳ 5 years after radiation ↳ pelvic radiation

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 → Radioactive substance



Uptake



Gamma Camera

↳ stomach & small bowel will light up

* In normal pt. (No Meckel's) only the stomach parietal cells will light up

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)

If fails: ↘

Interventional Radiology:

Angiography with Selective Embolization

If fails: ↘

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
stable the pt.

↓
Colonoscopy

↓
If colonoscopy is unsuccessful & Bleeding is Massive

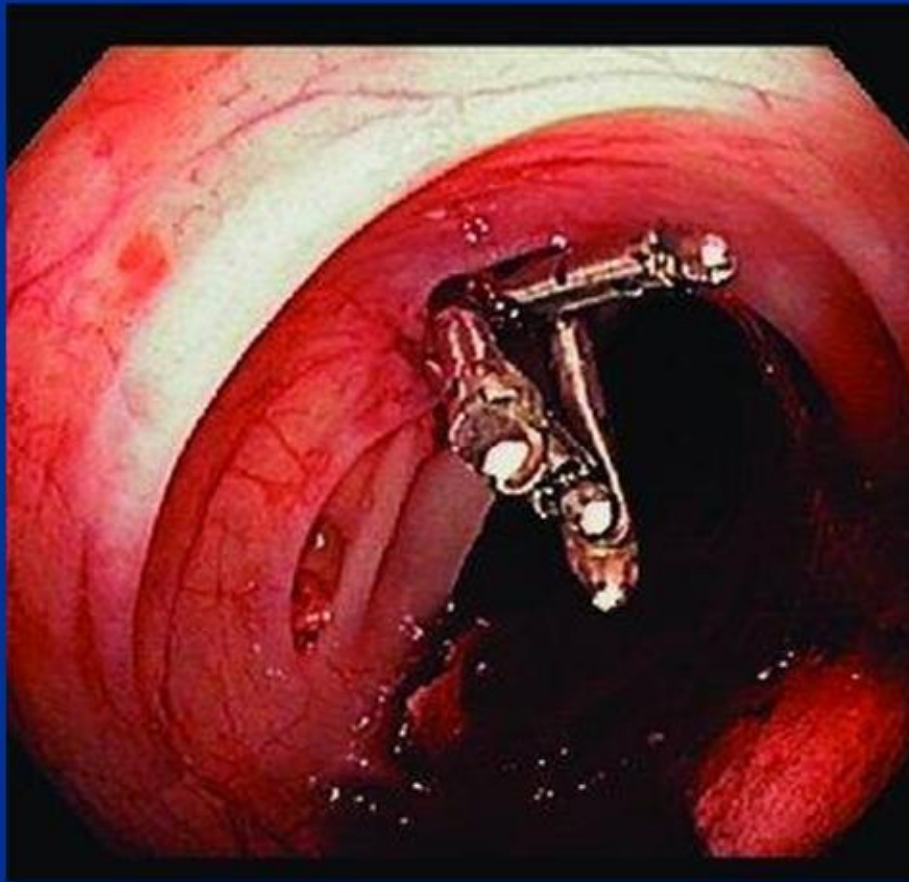
↙
hemodynamically stable

↓
Angiography

↘
hemodynamically unstable

↓
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