

Diverticular disease

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Definition

- Spectrum of clinical presentation, associated with the presence of diverticulae.
- Out pouching of colon are called diverticulae
- False or pulsion diverticulae

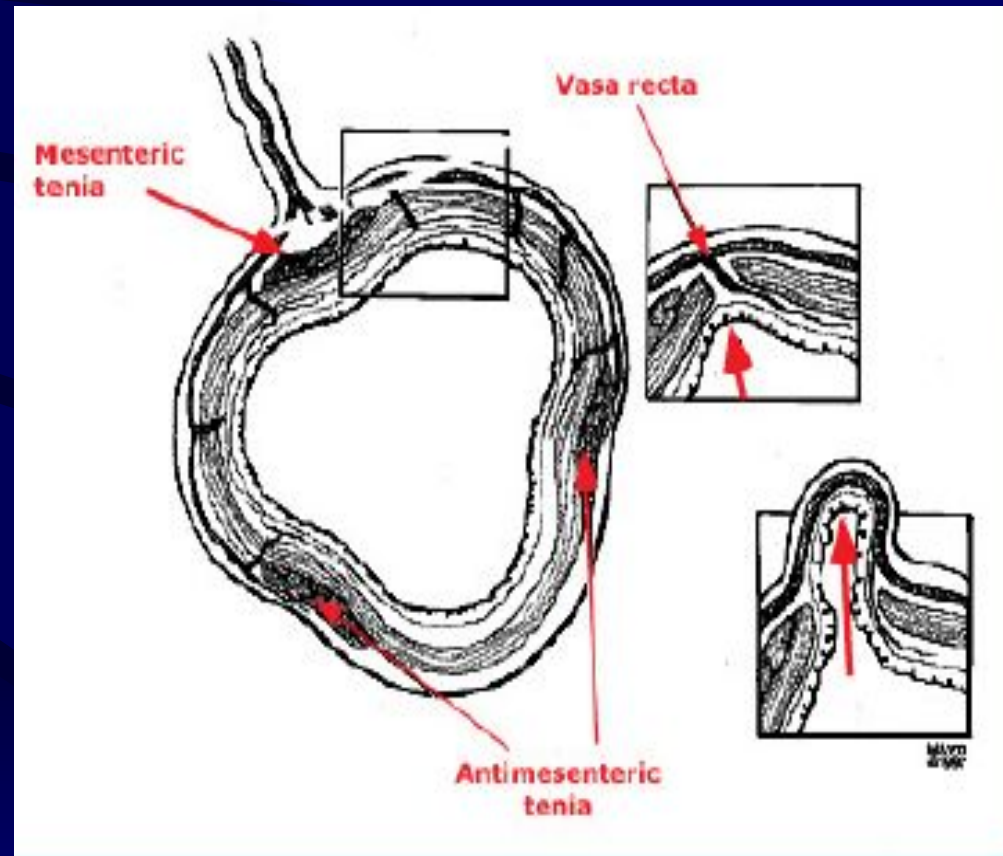


Incidence

- Increase with age
- Rare below age of 40Y, 5% above 40y.
- Present in 30% of people at age of 60y in the west, and 60% at age of 80y.
- Sigmoid colon is affected in more than 95% of cases

Why is sigmoid colon is the most affected?

- Narrowest diameter → High intraluminal pressure.
- Segmental contractions
- Law of laplace

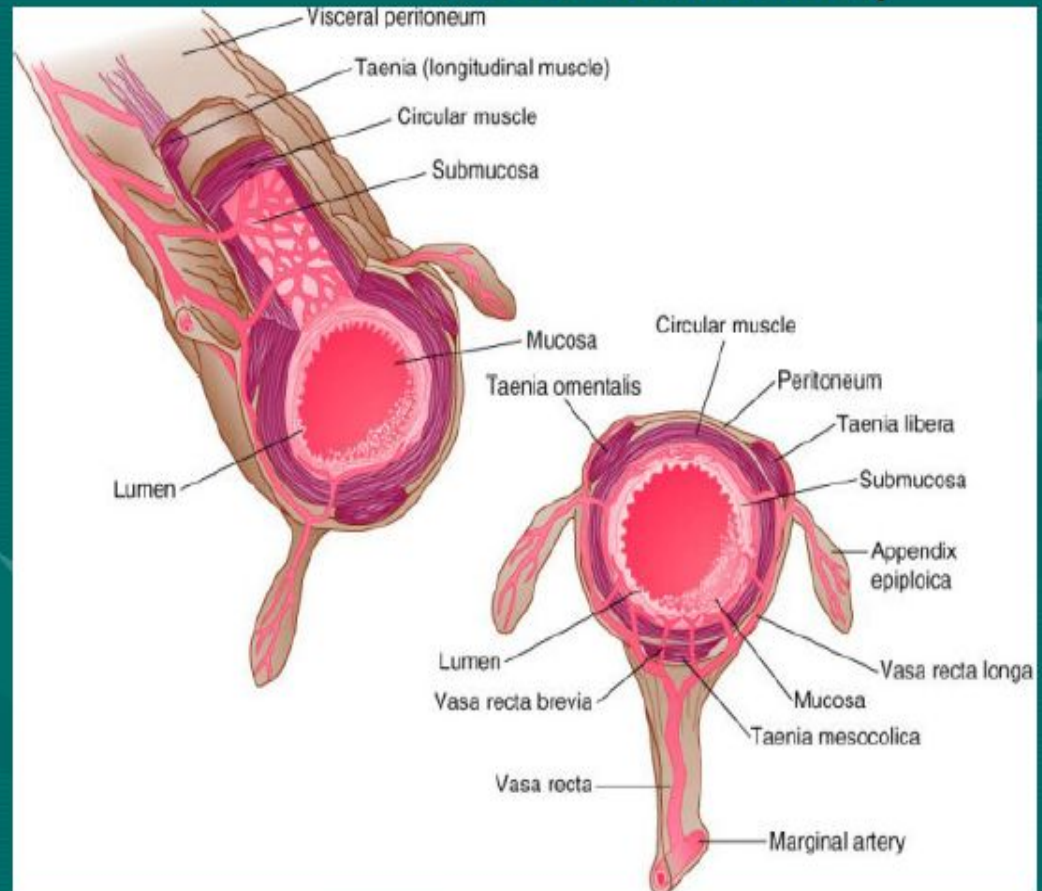


Definitions

- Diverticulosis
- Diverticulitis
- Diverticular disease

ARTERIAL SUPPLY OF COLON

Cross sectional anatomy



Note:

The vasa recta brevia run subserosally in the wall and penetrate the circular muscle and run in the submucosa

Look at the vasa rectae penetrating the muscle

Diverticular disease

Natural history

Uncomplicated 70%

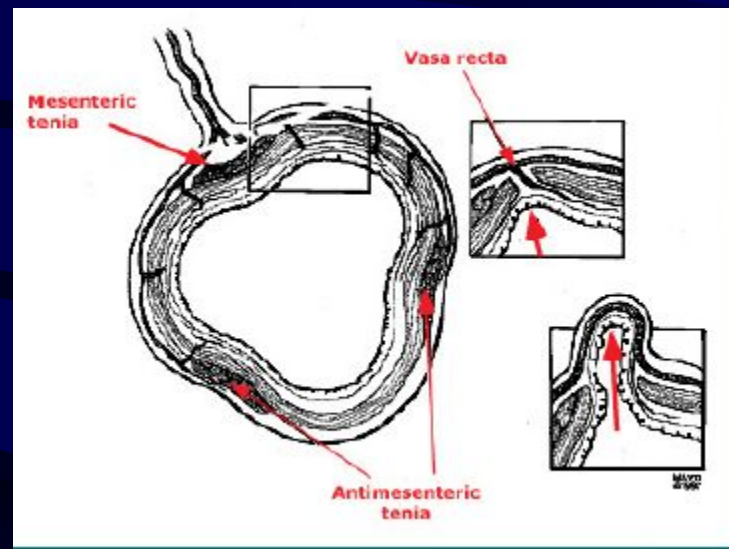
D bleed 5-15%

Diverticulitis 15-25%

Uncomplicated 75%

Complicated 25%

- Abscess
- Perforation
- Fistula
- Obstruction



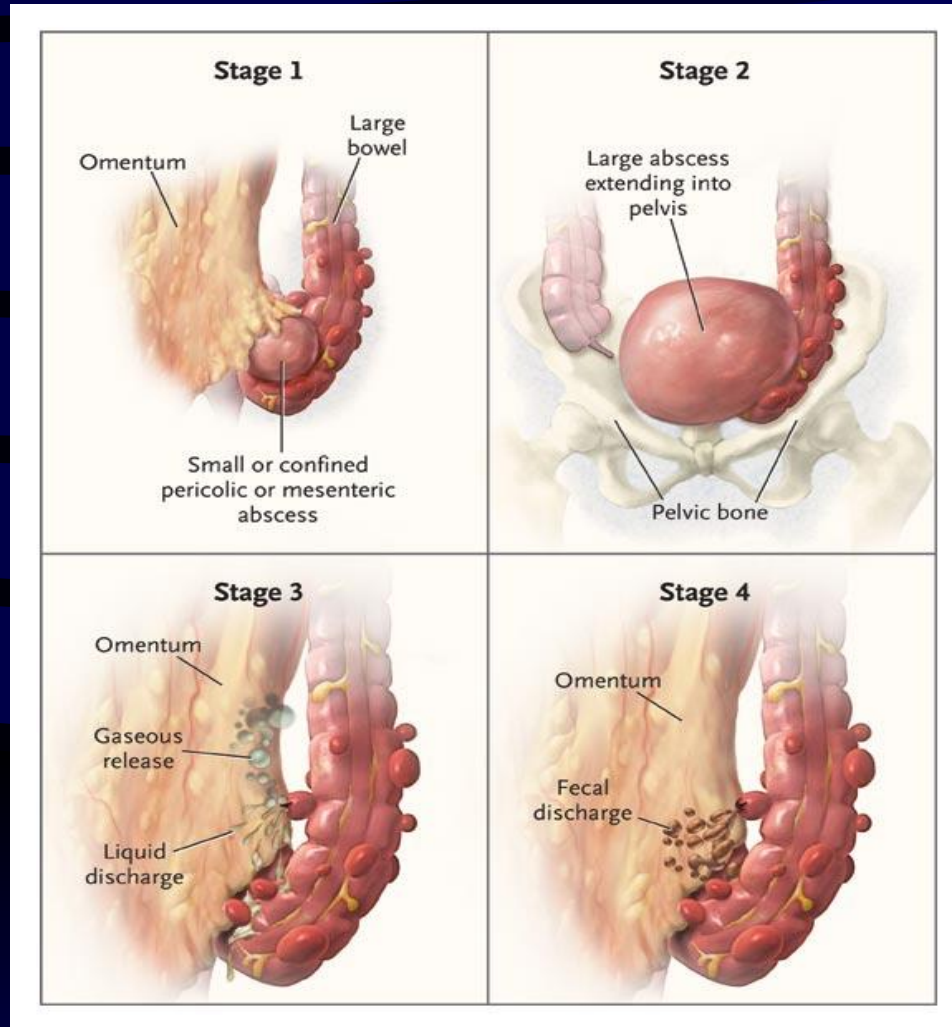
Diverticulitis

- Uncomplicated diverticulitis i.e. left side appendicitis
- Diverticulitis without abscess formation
 - Abdominal pain left iliac fossa
 - Fever
 - Leukocytosis
 - Atypical symptoms, frequency urgency, diarrhea, constipation, nausea

Classical triad



Hinchey Classification Scheme



Hinchey 1 - peri-diverticular abscess within the mesocolon

Hinchey II – distant walled-off (pelvic, retroperitoneal) abscess

Hinchey III - generalized purulent peritonitis

Hinchey IV – generalised faecal peritonitis

Pathophysiology of diverticulitis

- Diverticulitis is inflammation of diverticulae
- **The cause is** micro-macro perforation of the diverticulum either by
 - Obstruction of diverticulae by fecolith which lead to increase D pressure which lead to perforation **or**
 - Erosion of D wall by increase intraluminal pressure lead to inflammation, necrosis ,perforation.



Diagnosis

- Plain film abdomen
- Abdominal ultrasound
- Contrast CT scan
- Colonoscopy
- Barium enema

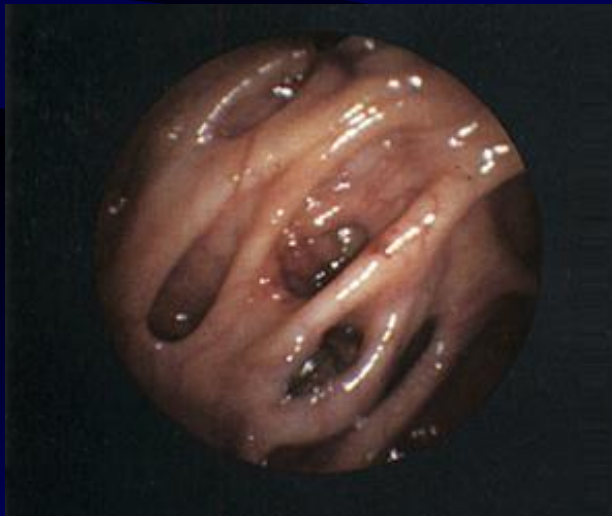
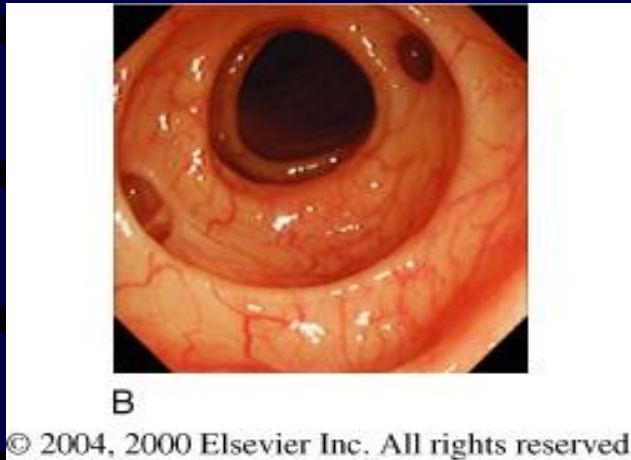


Diverticular disease



Diverticulitis

Imaging



- **Colonoscope**

- Wide-mouthed openings to diverticulae
- Colonoscopy may be difficult and hazardous when diverticulae are large enough to admit the tip of the scope.

acute diverticulitis with obstruction



Diverticulitis

Imaging

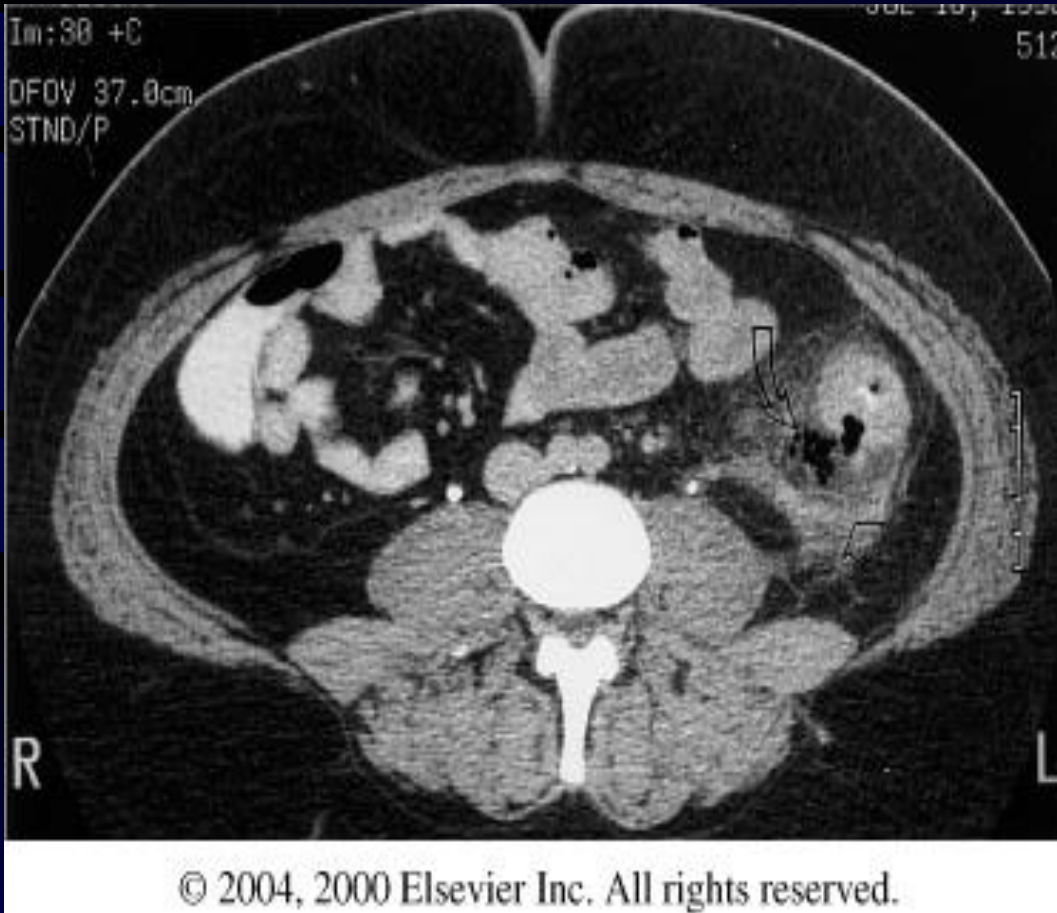
- **Barium Enema**

- Colon with sinus formation
- Shows multiple diverticulae
- Communicating sinus is clearly seen (arrow).



Diverticulitis

Imaging



- Computed tomographic scan
 - Marked thickening of
 - Distal end of the descending colon
 - Inflammatory changes (straight arrow)
 - Extraluminal gas (curved arrow)

CT in diverticulitis

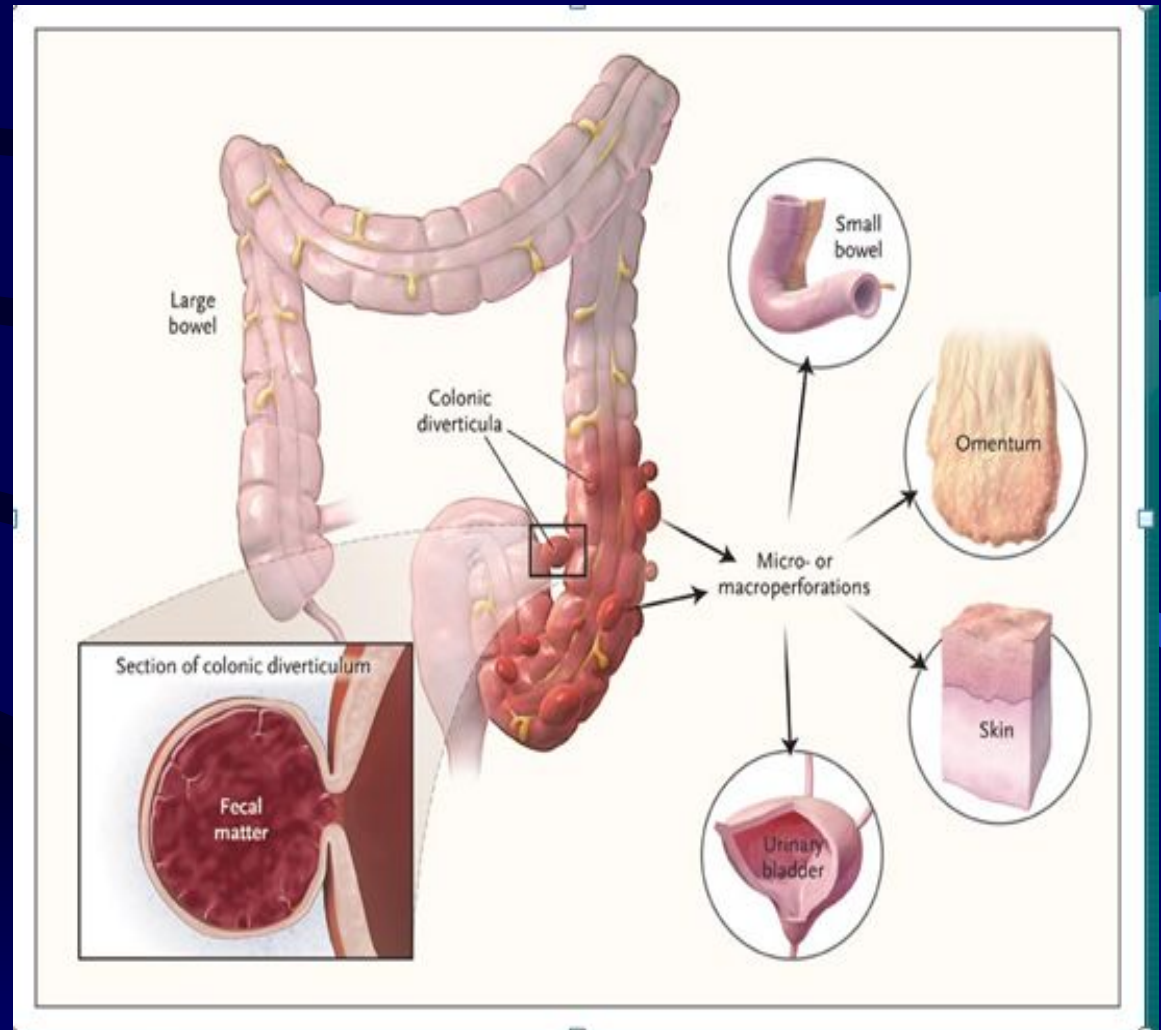


Treatment of diverticulitis

- Bowel rest and antibiotics depending on severity
- If no improvement Contrast CT scan after 48h
- Colonoscopy after 6-8 weeks
 - Exclude malignancy
 - Acute attack has resolved

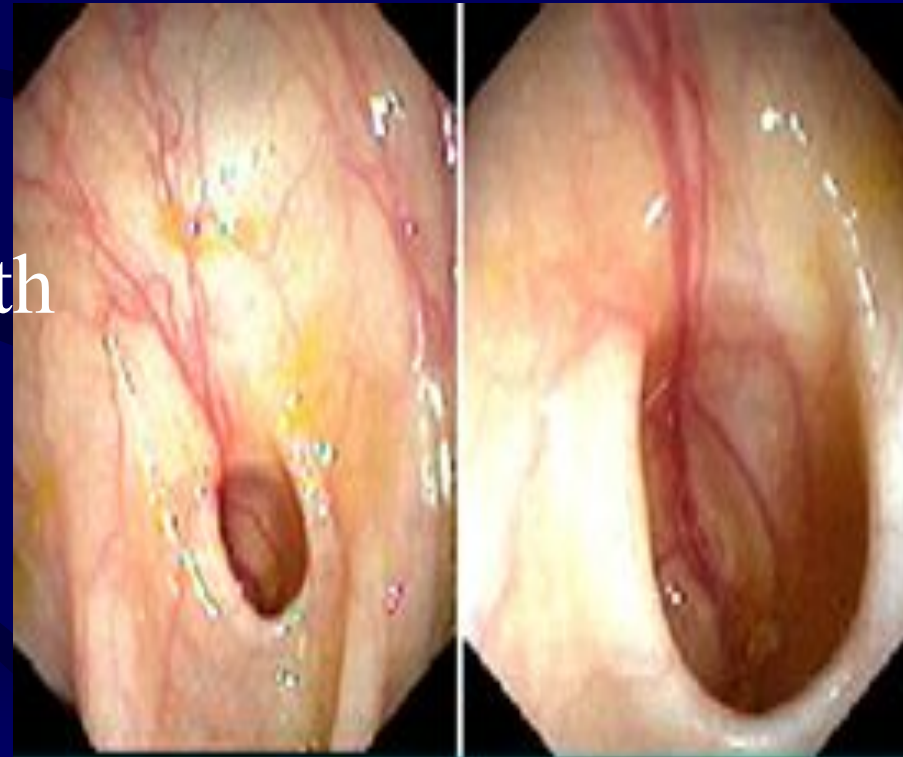
Complication of diverticular disease

- Bleeding
- Fistula
- Obstruction
- Abscess
- Cancer



Diverticular bleed

- Usually occur without diverticulitis
- Right side D bleed more commonly
- Wide lumen
- Vase recta is Submucosaly
- Expose artery to greater length

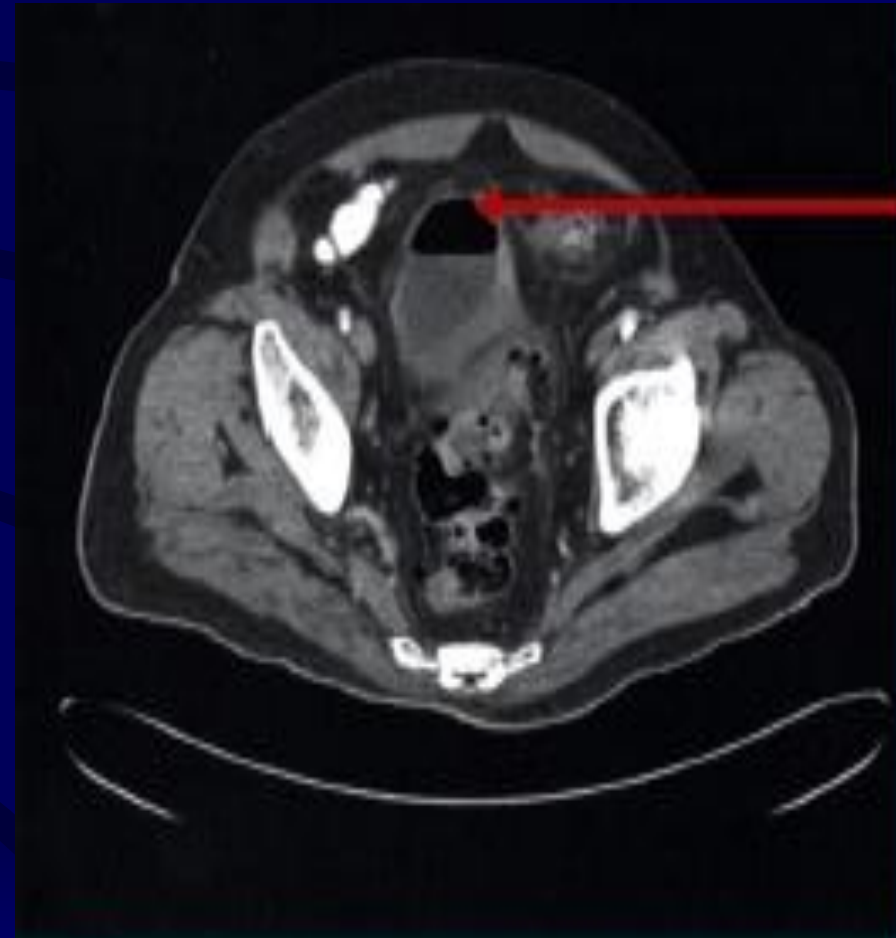


Diverticular bleed

- Account for 50% of massive lower GIT bleed
- Painless bleed
- Stop spontaneously in 90% of cases
- More common from right side diverticulae
- Rebleed in 10%
- Rarely accompanied by diverticulitis

Diverticular fistula

- Colovesical
- Colocutaneous
- Coloenteric
- Colovaginal

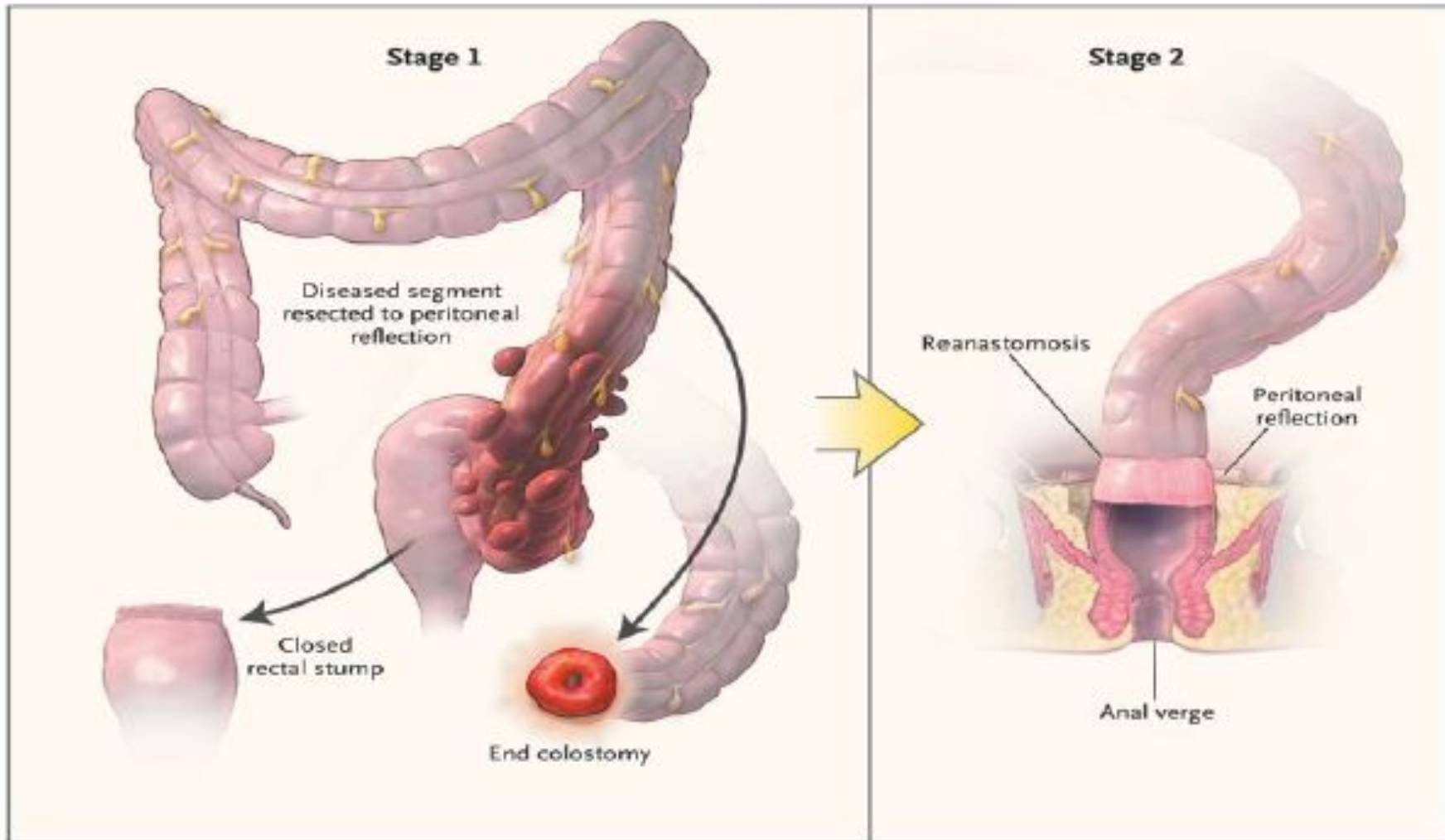


Complicated diverticulitis

Diverticular abscess

- US,CT drainage of abscess
- If not adequate drainage **Hartmann's procedure**
- Colonoscopy in 6 weeks
- Reversal in 12 weeks

Hartmann's procedure





Indication of elective resection

- Complicated diverticulitis managed conservatively
- 2-3 attacks of uncomplicated diverticulitis
- Fistula
- Stricture
- Malignancy cannot be excluded
- Immunocompromised patient after one attack of diverticulitis

Emergent or urgent exploration

- Free perforation with peritonitis
- Inadequate or failure of drainage of an abscess
- Obstruction
- Failure to improve with conservative treatment

Principles of resection for diverticulitis

- Perform primary resection of diseased segment even in emergencies
- Proximal resection margin should be normal colon with no muscle hypertrophy
- Distal resection margin must be in proximal rectum
- Not necessary to remove all diverticulae
- Perform oncological operation if malignancy is suspected

DIVERTICULAR DISEASE

DIVERTICULITIS - *Clinical Diagnosis*

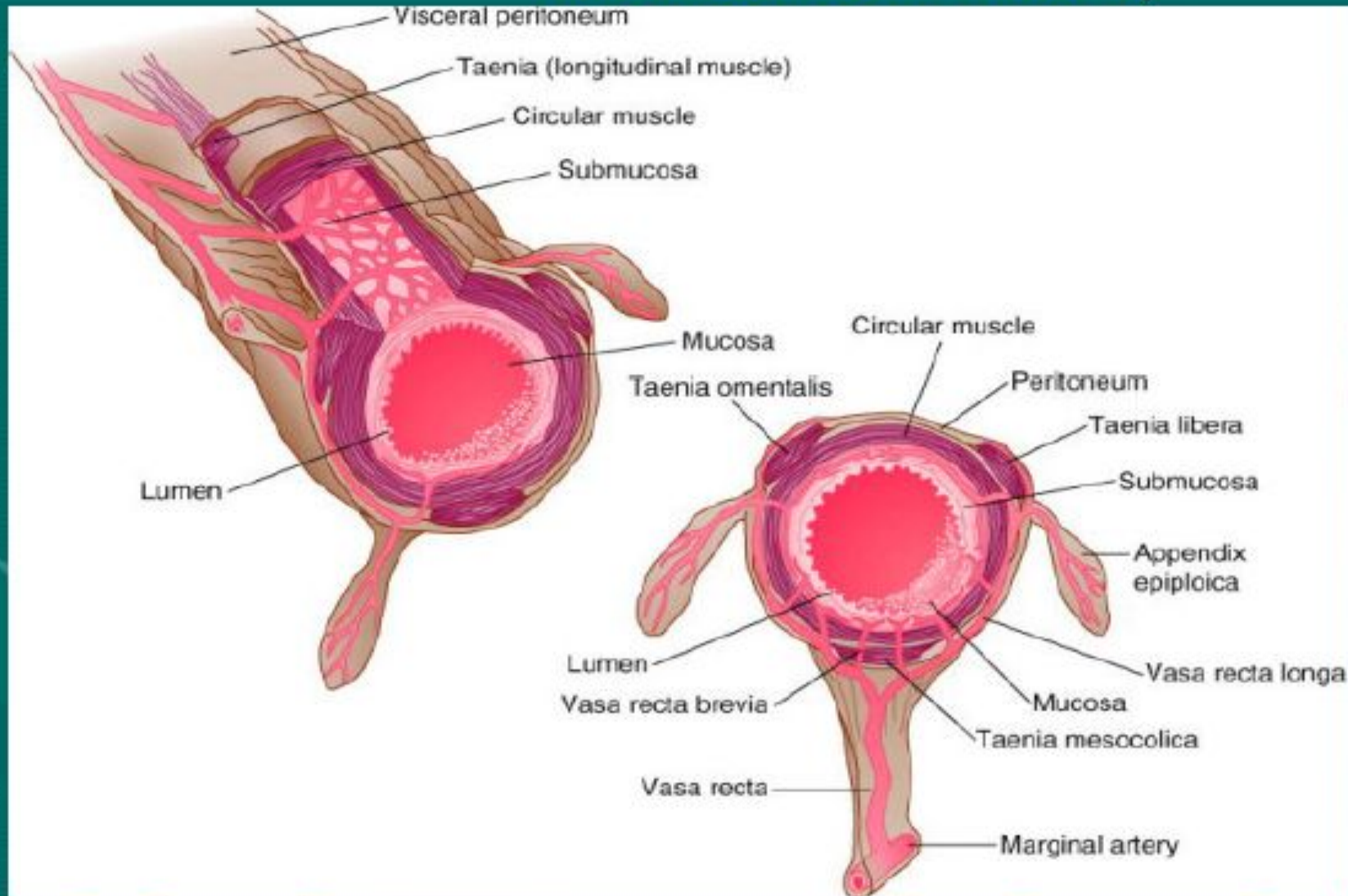
- Uncomplicated diverticulitis refers to the
 - local inflammation of the colon
 - no evidence of pericolic abscess, fistula, obstruction or free perforation
- “classical triad” of presentation
 - left lower quadrant pain
 - fever
 - leukocytosis
- Minor symptoms – nausea, diarrhea, frequency of urination, constipation
- Sigmoid diverticulitis can present with RLQ pain as sigmoid colon is redundant, especially in the elderly.
- Classic clinical symptoms are enough to establish the diagnosis and to begin antibiotic therapy.

Diverticulitis is most common
in the sigmoid colon



ARTERIAL SUPPLY OF COLON

Cross sectional anatomy



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