

Small and Large Intestinal pathology, part 2

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Diseases of the intestines

- ▶ Intestinal obstruction
- ▶ Vascular disorders
- ▶ Malabsorptive diseases and infections
- ▶ **Inflammatory bowel disease.**
- ▶ Polyps and neoplastic diseases

INFLAMMATORY INTESTINAL DISEASE

- ▶ **Sigmoid Diverticulitis**
- ▶ **Chronic Inflammatory bowel diseases (CIBD):** Crohn disease and Ulcerative colitis

Sigmoid Diverticulitis

Acquired.

ow
SLP

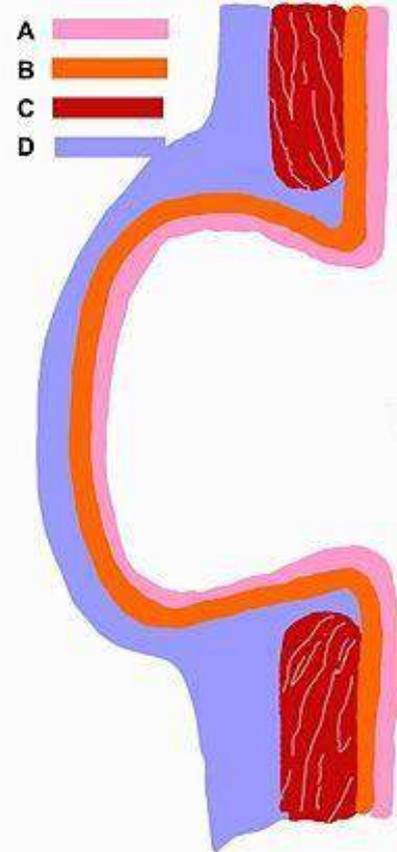
- ▶ Elevated intraluminal pressure in the sigmoid colon
- ▶ Exaggerated peristaltic contractions,
- ▶ Low fiber diet and constipation.

- ▶ Pseudodiverticulae
- ▶ Outpouchings of colonic mucosa and submucosa

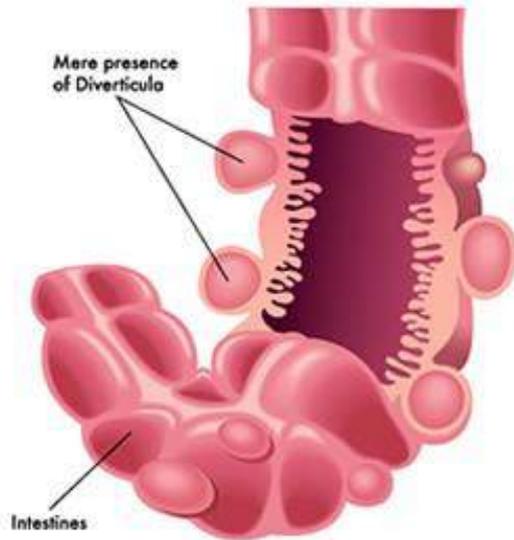
MORPHOLOGY

- ▶ Flasklike outpouchings
- ▶ **Mostly in sigmoid colon.**
- ▶ Thin wall (atrophic mucosa, compressed submucosa)
- ▶ Attenuated or absent muscularis.
- ▶ Obstruction leads to diverticulitis.
- ▶ Risk of perforation.
- ▶ Recurrent diverticulitis leads to strictures.

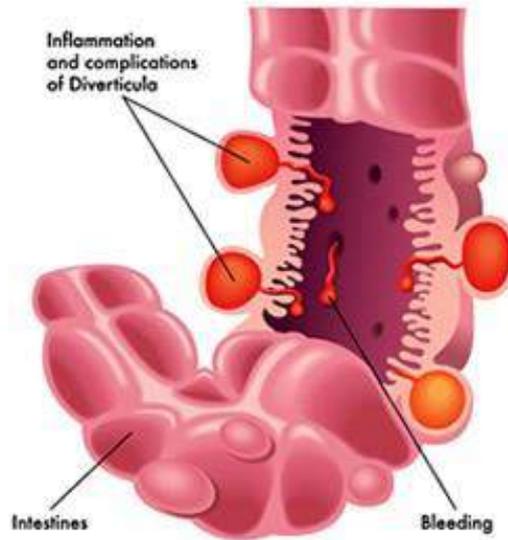
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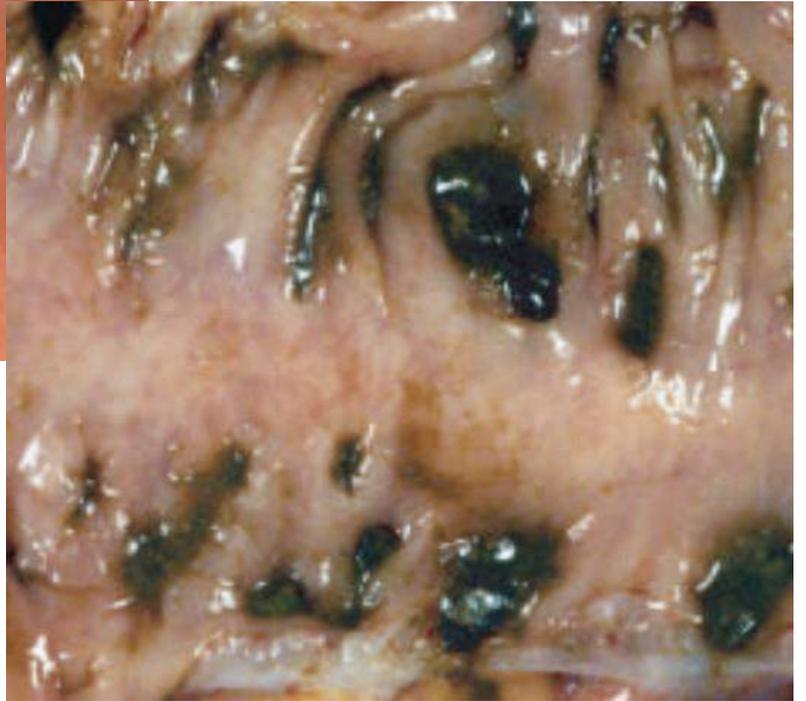


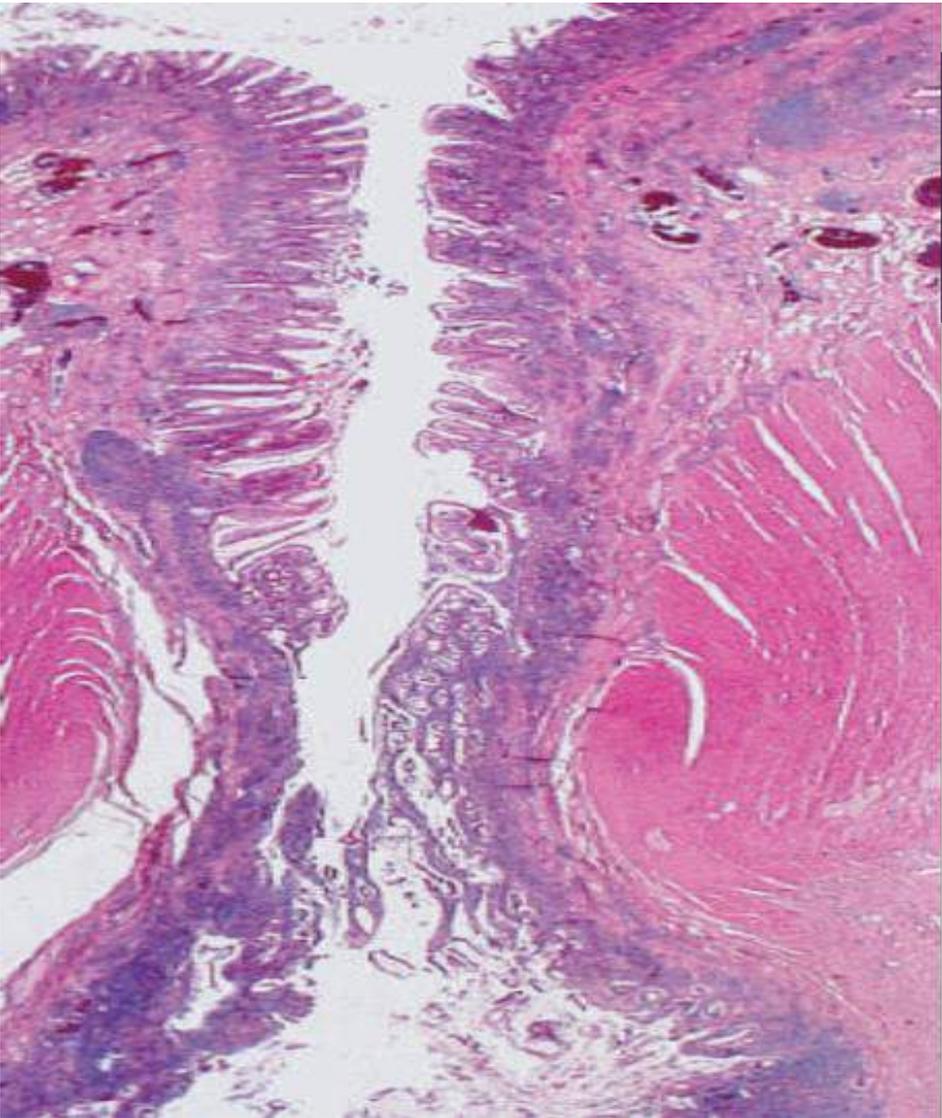
Diverticulosis



Diverticulitis







Clinical Features

- ▶ Mostly asymptomatic.
 - ▶ Intermittent lower abdominal pain
 - ▶ Constipation or diarrhea.
-
- ▶ Tx:
High fiber diet.
Antibiotics in diverticulitis.
Surgery.



Inflammatory Bowel Disease

- ▶ Chronic IBD.
- ▶ Genetic predisposition.
- ▶ Inappropriate mucosal damage.

مطابق

شرفه در ریز
على سطح

▶ **Ulcerative colitis:** limited to the colon and rectum, extends only into mucosa and submucosa.

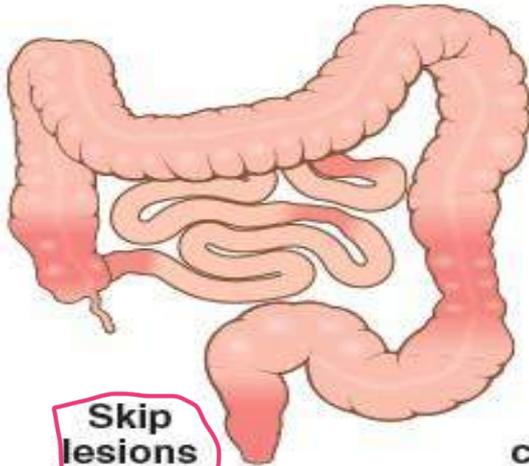
superficial

▶ **Crohn disease:** regional enteritis, frequent ileal involvement, affect any area in GIT, frequently transmural.

small bowel

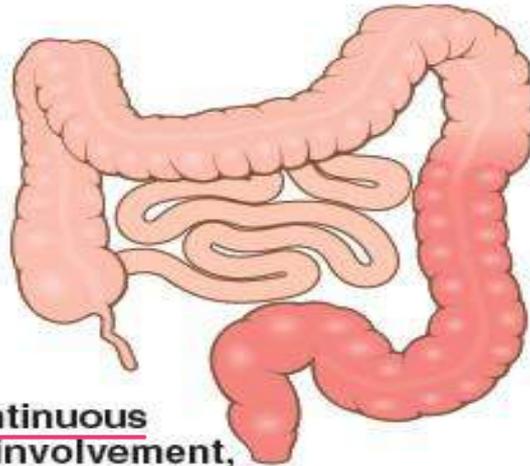
deep

CROHN DISEASE

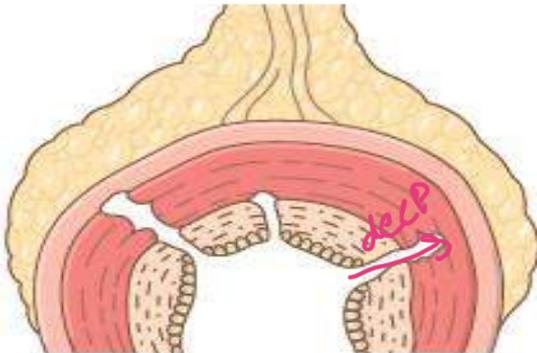


Skip lesions

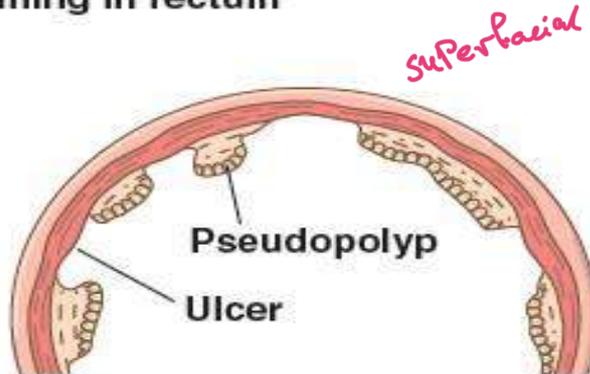
ULCERATIVE COLITIS



Continuous colonic involvement, beginning in rectum



Transmural inflammation
Ulcerations
Fissures



superficial

Pseudopolyp
Ulcer

Epidemiology

- ▶ Adolescence & young adults
- ▶ 2nd peak in fifth decade.
- ▶ Geographic variation.
- ▶ **Hygiene hypothesis**: childhood exposure to environmental microbes prevents excessive immune system reactions. Firm evidence is lacking!!!

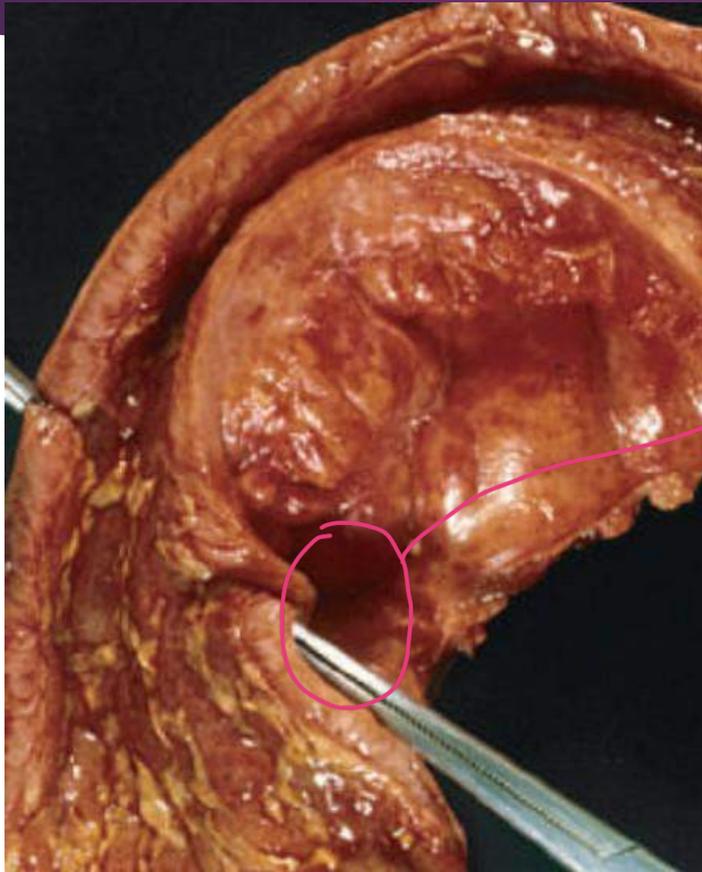
رکز علیها
صا علیها نوال

Crohn Disease Morphology

- ▶ Macroscopic:
- ▶ Regional enteritis.
- ▶ Any area of GIT.
- ▶ Most common sites: terminal ileum, ileocecal valve, and cecum.
- ▶ Small intestine alone 40%
- ▶ Small intestine and colon 30%
- ▶ Colon only 30%
- ▶ **Skip lesions**
- ▶ Strictures common

malso
mels

Small bowel stricture.



narrow lumen

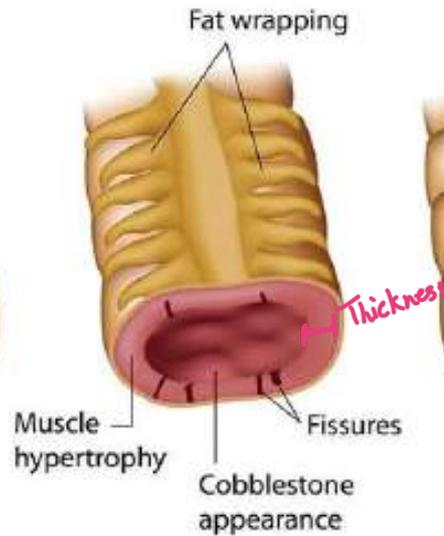
شرحہ کامل

- ▶ Earliest lesion: aphthous ulcer
- ▶ Elongated, ^{deep} serpentine ulcers.
- ▶ Edema , loss of bowel folds.
- ▶ Cobblestone appearance
- ▶ Fissures, fistulas, perforations.
- ▶ Thick bowel wall (transmural inflammation, edema, fibrosis, hypertrophic MP)
- ▶ Creeping fat

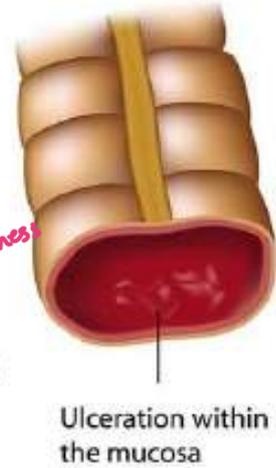
Healthy



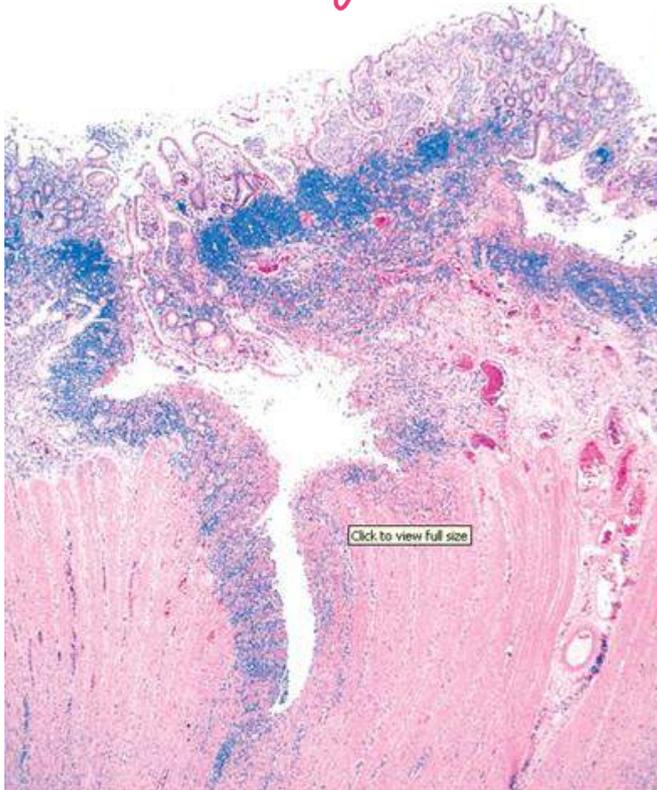
Crohn's disease



Ulcerative colitis



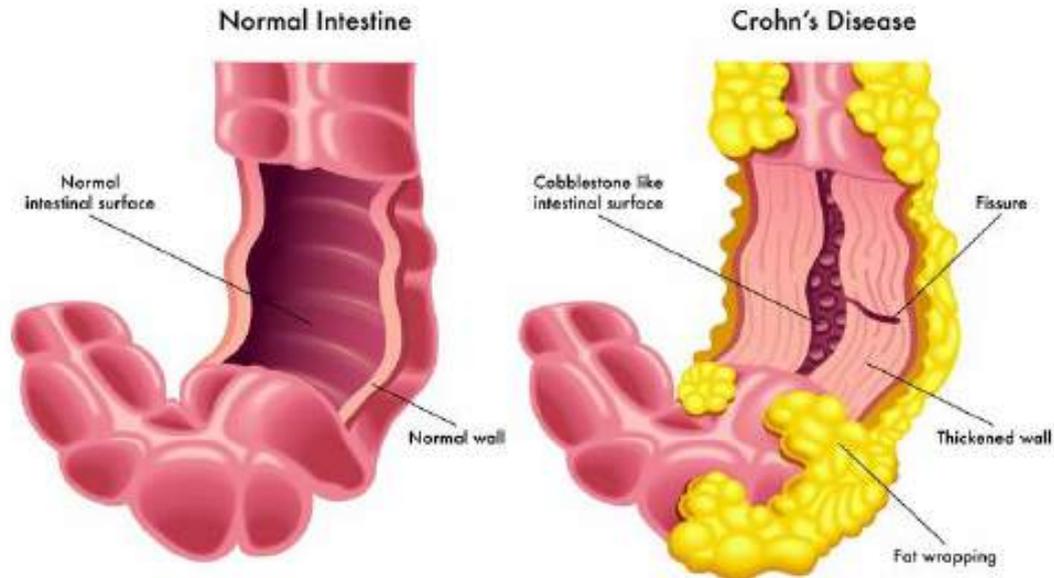
terminal ilea



Crohn disease of the colon showing a deep fissure extending into the muscle wall, a second, shallow ulcer (upper right), and relative preservation of the intervening mucosa. Abundant lymphocyte aggregates are present, evident as dense blue patches of cells at the interface between mucosa and submucosa

small bowel

Creeping fat



Cobblestone appearance



ulcer

normal



[ResearchGate](#)

► Microscopic:

Neutrophils in active disease.

Crypt abscesses.

Ulceration.

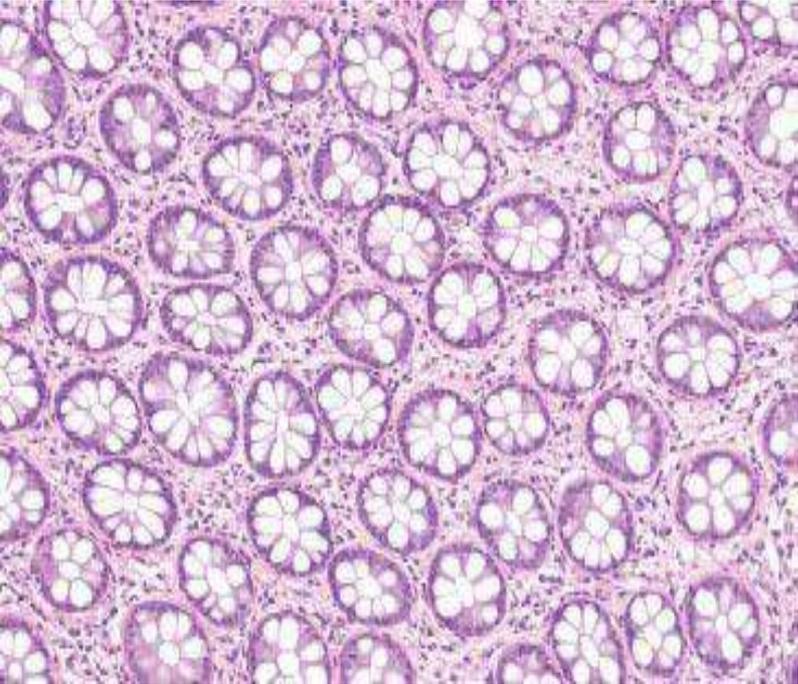
Distortion of mucosal architecture

Paneth cell metaplasia in left colon

Mucosal atrophy.

Noncaseating granulomas (hallmark) only in 35% of cases. Where??????

normal

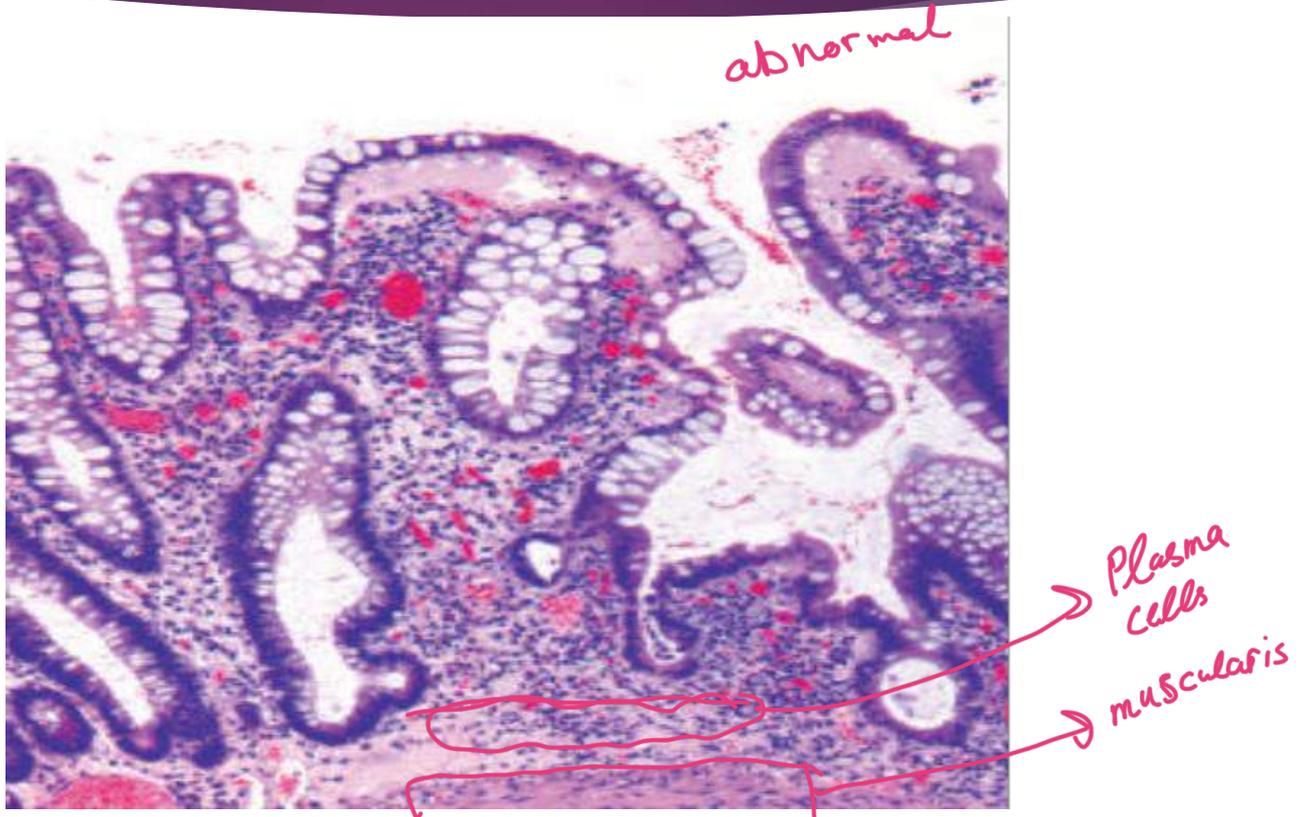


normal

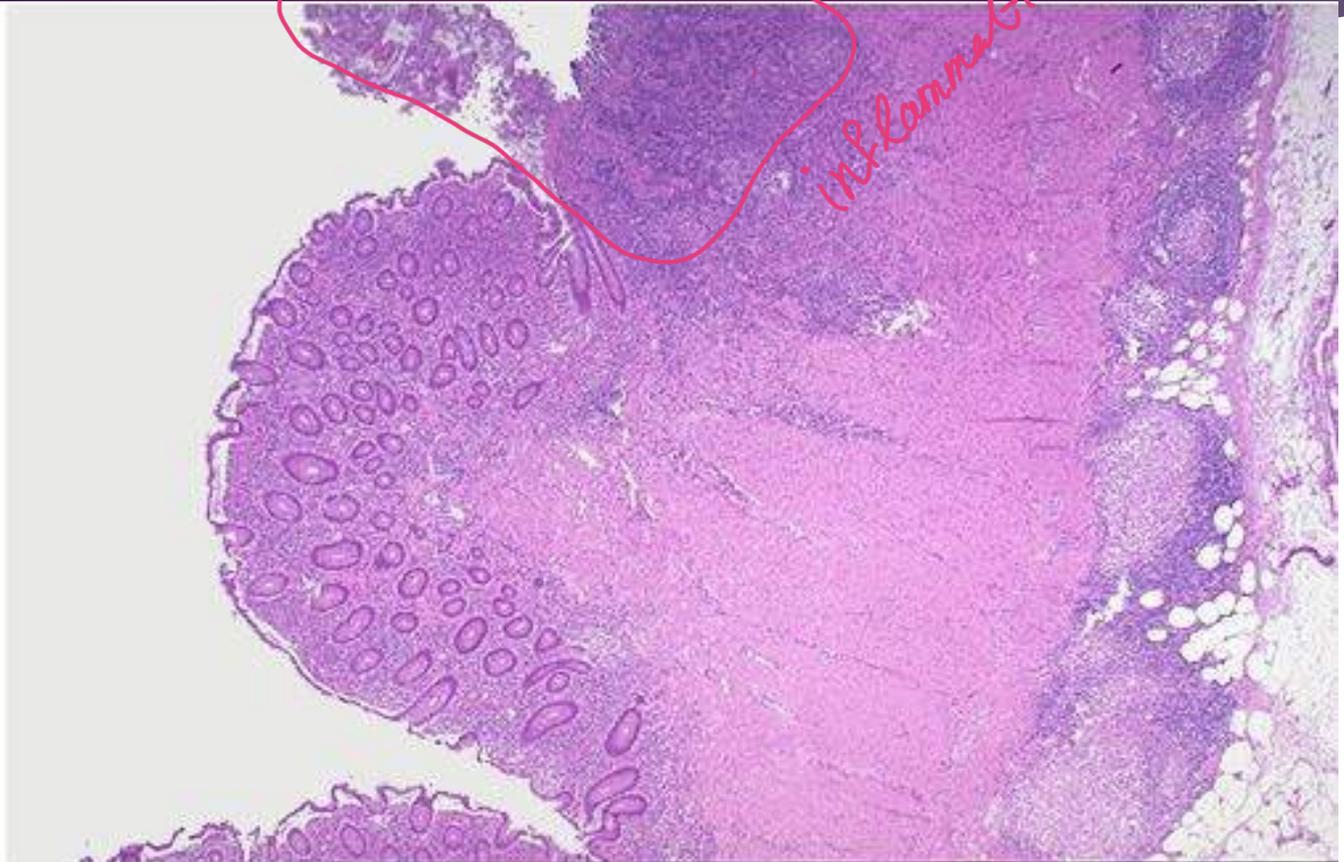


muscularis

Haphazardly arranged crypts

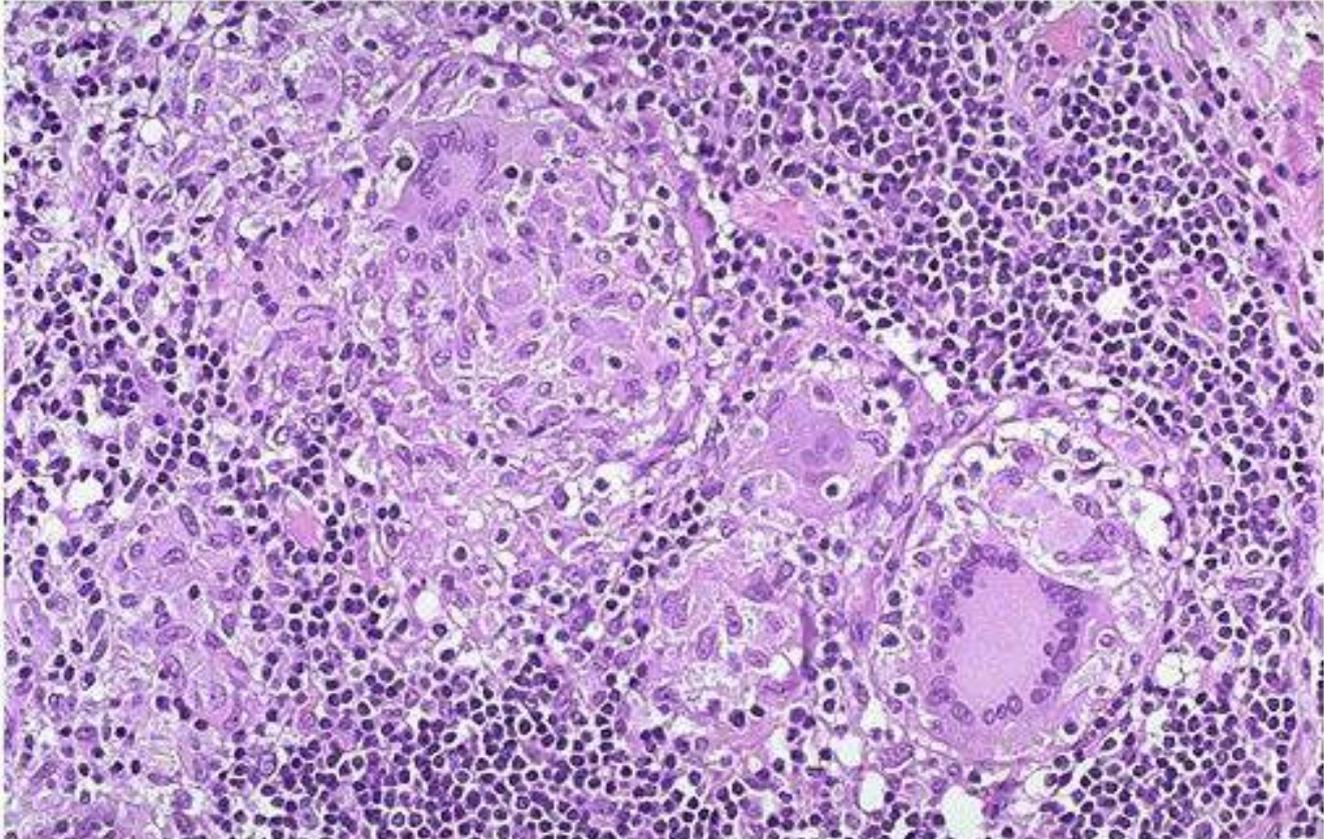


Transmural inflammation.



↪ (35-40)% ↪ granuloma

Non-caseating granuloma.



Clinical Features

young age

- ▶ Intermittent attacks of mild diarrhea, fever, and abdominal pain.
- ▶ Acute right lower-quadrant pain and fever (20%)
- ▶ Bloody diarrhea and abdominal pain (colonic disease)
- ▶ Asymptomatic intervals (weeks to months)
- ▶ Triggers: physical or emotional stress, specific dietary items, NSAID use, and cigarette smoking.



شرح
كلم

شرح

► Complications:

Iron-deficiency anemia

Hypoproteinemia and hypoalbuminemia,
malabsorption of nutrients, vitamin B12 and bile
salts

Fistulas, peritoneal abscesses, strictures

Risk of colonic adenocarcinoma

Extra intestinal manifestations

- ▶ Uveitis
- ▶ Migratory polyarthritits,
- ▶ Sacroiliitis,
- ▶ Ankylosing spondylitis,
- ▶ Erythema nodosum
- ▶ Clubbing of the fingertips
- ▶ Primary sclerosing cholangitis (more with UC)

قشریه بی مرکز غالباً در حوضه

رکز علیها

Erythema nodosum



Clubbing



[Wikipedia](#)

Ulcerative Colitis Morphology

- ▶ Always involves the rectum
- ▶ Extends proximally in continuous pattern.
- ▶ Pan colitis.
- ▶ Occasionally focal appendiceal or cecal inflammation.
- ▶ Ulcerative proctitis or ulcerative proctosigmoiditis
- ▶ Small intestine is normal (except in backwash ileitis)

شرح کامل

شرحہ کامل

► Macroscopic:

Broad-based ulcers.

Pseudopolyps

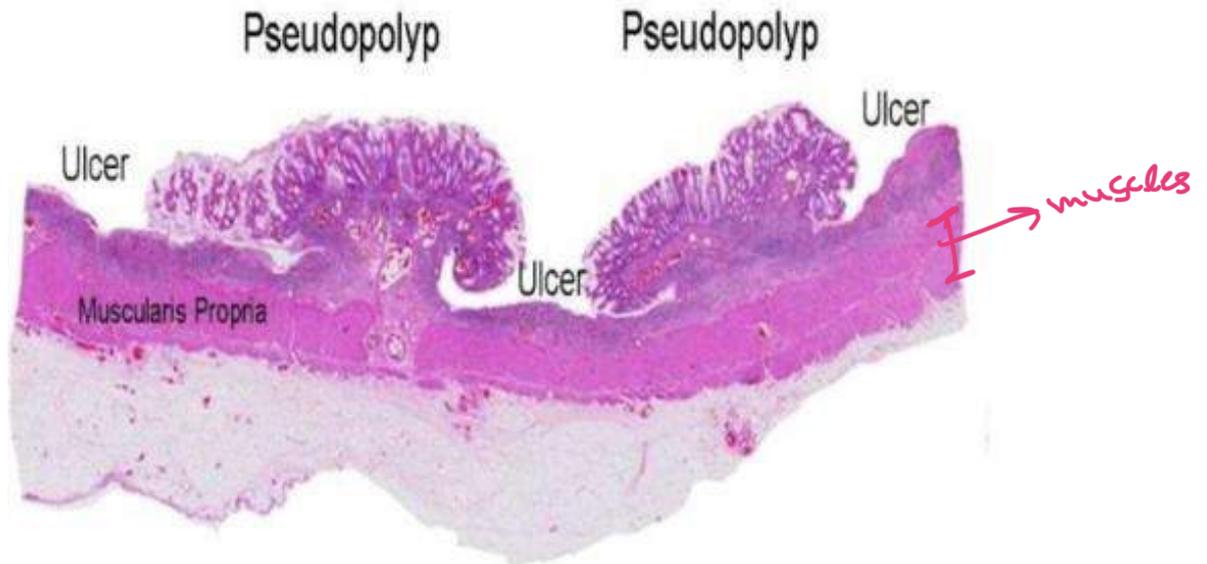
Mucosal atrophy in long standing

Mural thickening absent

Serosal surface normal

No strictures

Toxic megacolon



Toxic megacolon





► Microscopic:

شخص

Inflammatory infiltrates

Crypt abscesses

Crypt distortion

Epithelial metaplasia

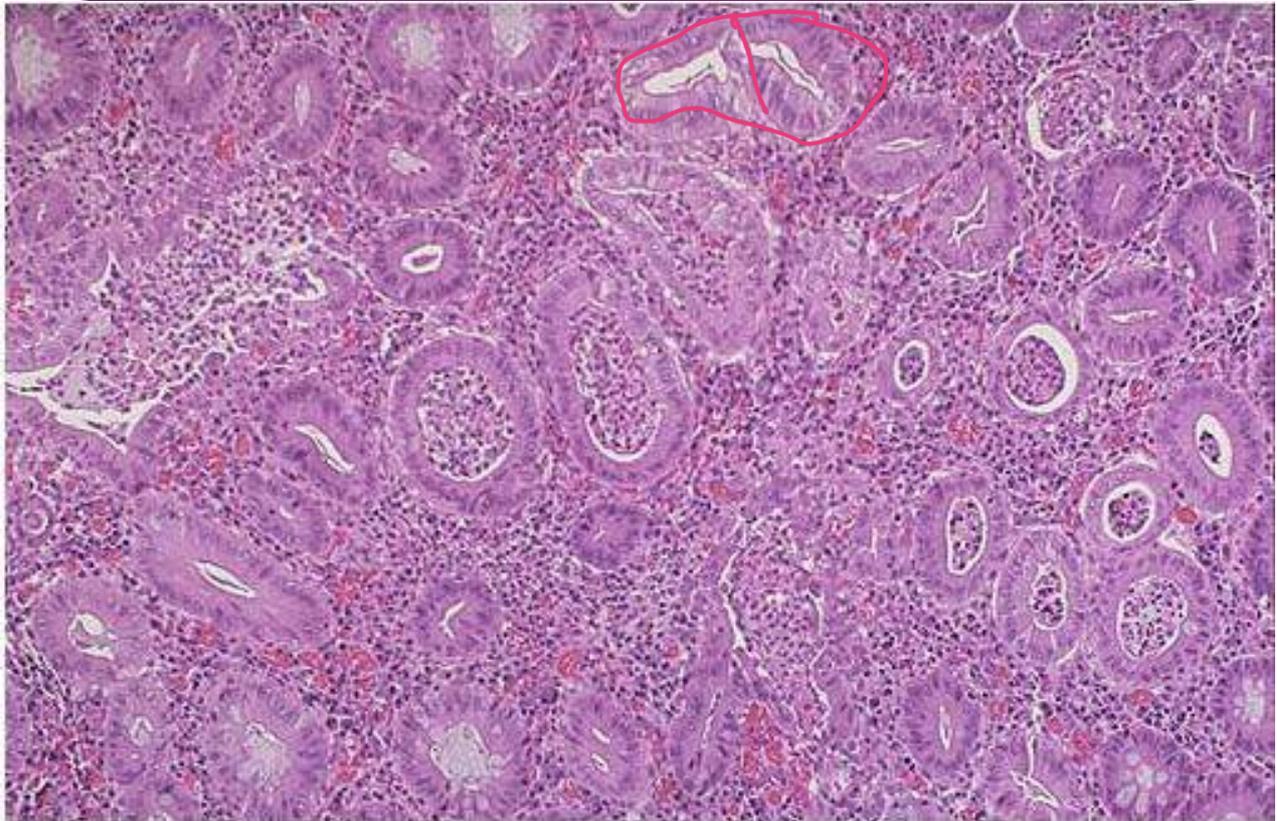
Submucosal fibrosis

\Inflammation limited to mucosa and submucosa.

No skip lesions

No granulomas.

Crypt abscesses.



Mucopurulent material and
ulcers.



Pancolitis.

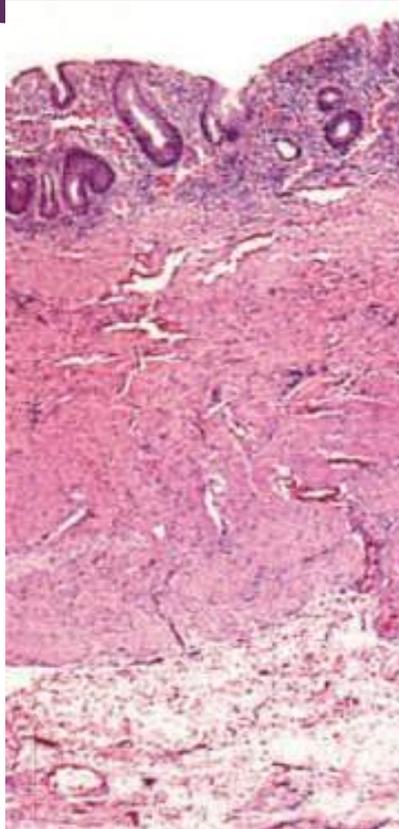
all the colon



Abrupt transition b/w normal
and disease segment.



Limited to mucosa



Clinical Features

- ▶ Relapsing remitting disorder
- ▶ Attacks of bloody mucoid diarrhea + lower abdominal cramps
- ▶ Temporarily relieved by defecation
- ▶ Attacks last for days, weeks, or months.
- ▶ Asymptomatic intervals.
- ▶ Infectious enteritis may trigger disease onset, or cessation of smoking.
- ▶ Colectomy cures intestinal disease only

شرح
کامل

Feature	Crohn Disease	Ulcerative Colitis
Macroscopic		
Bowel region affected	Ileum ± colon	Colon only
Rectal involvement	Sometimes	Always
Distribution	Skip lesions	Diffuse
Stricture	Yes	Rare
Bowel wall appearance	Thick	Thin
Inflammation	Transmural	Limited to mucosa and submucosa
Pseudopolyps	Moderate	Marked
Ulcers	Deep, knifelike	Superficial, broad-based
Lymphoid reaction	Marked	Moderate
Fibrosis	Marked	Mild to none
Serositis	Marked	No
Granulomas	Yes (~35%)	No
Fistulas/sinuses	Yes	No

ملاحظه
الطاهر

Feature	Crohn Disease	Ulcerative Colitis
Clinical		
Perianal fistula	Yes (in colonic disease)	No
Fat/vitamin malabsorption	Yes	No
Malignant potential	With colonic involvement	Yes
Recurrence after surgery	Common	No
Toxic megacolon	No	Yes

NOTE: Not all features may be present in a single case.

Colitis-Associated Neoplasia

شرح کا حصہ

- ▶ Long standing UC and CD.
- ▶ Begins as dysplasia >>>> carcinoma.

▶ Risk depends on

Duration of disease: increase after 8-10 years .

Extent of involvement: more with pancolitis.

Inflammation: frequency and severity of active disease with neutrophils.

ورکز خون