

Gastrointestinal tract pathology

Dr. Hind Alaa

Learning objectives:

- Definition, and types of inflammatory bowel disease.
- Difference between ulcerative colitis and crohn disease.
- Types of intestinal polyps.

INFLAMMATORY BOWEL DISEASES (Idiopathic)

1. CROHN DISEASE
2. ULCERATIVE COLITIS

COMMON FEATURES

- + Idiopathic
- + Colonic inflammation
- + Similar treatment
- + Both have systemic, extraintestinal inflammatory manifestations
- + Both have cancer risk

Crohn disease (Regional enteritis)

- Crohn disease may affects any part of GI tract, but the most commonly sites involved are the terminal ileum, ileocecal valve, and cecum.
- Clinically patients presented with diarrhea and malabsorption
- It is a systemic inflammatory disease with predominant gastrointestinal involvement
- Extra intestinal manifestations include uveitis, migratory polyarthritis, sacroiliitis, ankylosing spondylitis, and erythema nodosum.

Morphological features

Gross features

- **Skipped lesions** presence of multiple, separate, sharp demarcation of diseased bowel segment from adjacent un-involved bowel wall.
- The mucosa is edematous and hyperemic and shows, linear longitudinal ulcers causing **fissures**
- Fissure may extend deeply to become fistula tracts or sites of perforation.
- **Cobblestone appearance** (the combination of linear ulceration and mucosal remnants)

- In cases with extensive transmural disease, mesenteric fat frequently extends around the serosal surface (creeping fat)
- **In advanced stage**, fibrosis of the wall occurs, this cause thickened wall + narrowed lumen leading to stricture formation.

Microscopical features

- **Transmural inflammation** (affects all layers of the wall) characterized by Infiltration of lymphocytes, plasma cells and macrophages.
- Crypt architectural distortion.
- Features of active disease include: abundant neutrophils that infiltrate and damage the crypt epithelium & crypt abscesses (clusters of neutrophils within a crypt).
- **Non-caseating epithelioid granuloma**; a hallmark of Crohn disease (found in 35% of cases, in all tissue layers).

Complications of Crohn disease (CD)

- Intestinal obstruction
- Perforation of deep fissures → peritonitis.
- Sinus to skin or fistulas to colon, bladder.
- Carcinoma (less than in UC)

Ulcerative colitis (UC)

- An ulcero- inflammatory disease affecting the colon
- UC involves the rectum and extends proximally in a continuous fashion to involve part or the entire colon.
- Disease of the entire colon is termed **pancolitis**, rectum or rectosigmoid ---- **ulcerative proctitis** or **ulcerative proctosigmoiditis**.
- Limited to the mucosa and sub mucosa
- Extra-intestinal manifestations of ulcerative colitis overlap with those of Crohn disease.
- Clinically patients presented with diarrhea and bleeding per rectum.

Pathological features (Morphological)

Grossly:

- Ulcerative colitis is **diffuse** lesion.
- The involved colonic mucosa may be slightly erythematous and granular or have extensive, broad-based ulcers

- **Pseudopolyp** formation due to regenerating mucosal island between areas of ulceration.
- Serosa normal.
- Toxic megacolon - rare complication - prominent dilatation and thinning of the colonic wall.

Microscopical features

- ✓ Diffuse lymphoplasmacytic inflammation in the lamina propria.
- ✓ **Cryptitis** and **crypt abscess**
- ✓ Mucosal ulceration extending into the sub mucosa.
- ✓ Granulomas are **not** present in UC.

Complications:

- Toxic megacolon → perforation → peritonitis → fatal.
- Massive hemorrhage (rectal bleeding).
- Colorectal carcinoma.

• CROHN (CD)	• ULCERATIVE (UC)
Any part of GIT and mainly Terminal ileum	Always in rectum and part of entire colon.
Transmural inflammation.	Mucosal and submucosal.
Deep ulcer	Superficial ulceration
Bowel wall: thick	Bowel wall: thin
Skip lesions present	Skip lesions absent
Crypt abscesses not common	Crypt abscesses common
Cobblestoning	Pseudopolyp
Granulomas common	No granulomas
Fistula and stenosis complication common	Fistula and stenosis rare
Less risk of malignancy	More risk
Malabsorption	No malabsorption

Intestinal polyps and neoplastic disease

- Is a mass that protrudes into the lumen of GIT
- Either with stalks (pedunculated) or without stalk (Sessile)

Two types:

A- Non – neoplastic polyps

1- Hamartomatous polyp (rare).

a- Juvenile: commonly found in children younger than age 5 and usually solitary, characterized by cystically dilated glands filled with mucin and inflammatory debris.

➤ They are characteristically located in the **rectum**

b- Peutz Jeghers polyp: Large polyp with arborizing network of connective tissue, smooth muscle, lamina propria & glands lined by normal appearing intestinal epithelium.

2- Inflammatory polyp: form as a result of chronic cycles of injury and healing (Seen in large bowel in inflammatory diseases as CD or UC).

3- Hyperplastic polyps: are most commonly found in the left colon and typically are less than 5 mm in diameter.

Histologically: serrated **surface** architecture with a sawtooth appearance.

THANK YOU