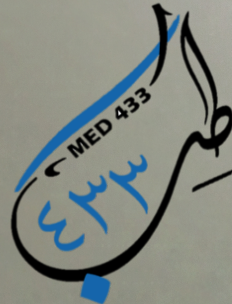


# Inflammatory Bowel Disease (IBD)



Surgery Team  
MED 433





# Objectives :

- What is the Disease?
- Epidemiology
- Pathophysiology
  1. Ulcerative Colitis
  2. Crohn's Disease

Sources : Slides, Raslan's Notebook, Principles & Practice of Surgery by: O. James Garden

Color Index : Slides & Raslan's | Textbook | Doctor's Notes | Extra Explanation

# Inflammatory Bowl Diseases

Two chronic diseases could cause ulceration and inflammation of the intestines :

- **Ulcerative Colitis**
- **Crohn's Disease**

## Epidemiology :

- Highest prevalence in north America.
- The incidence is increasing in Saudi Arabia

They have some features in common but there are important differences. However, some patients (20%) have a clinical picture that falls in between these two and this is called **Indeterminate Colitis**

## Pathophysiology:

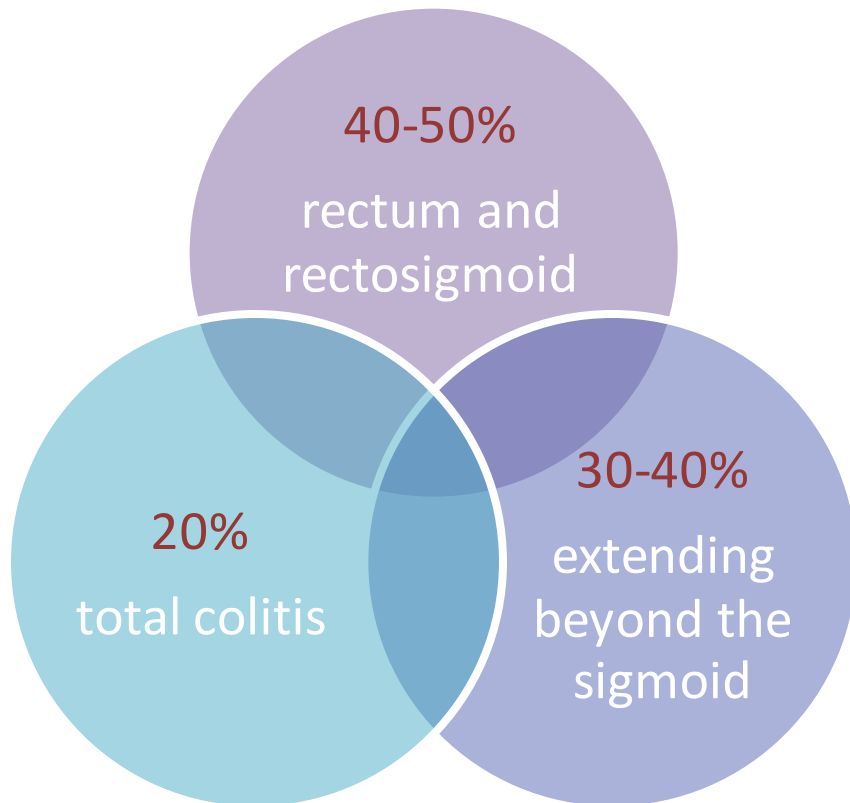
- The current theory: There is a genetic defect that affects the immune system, so that it attacks the bowel wall in response to stimulation by an offending antigen, like a bacteria, a virus, or a protein in the food

## Risk factors :

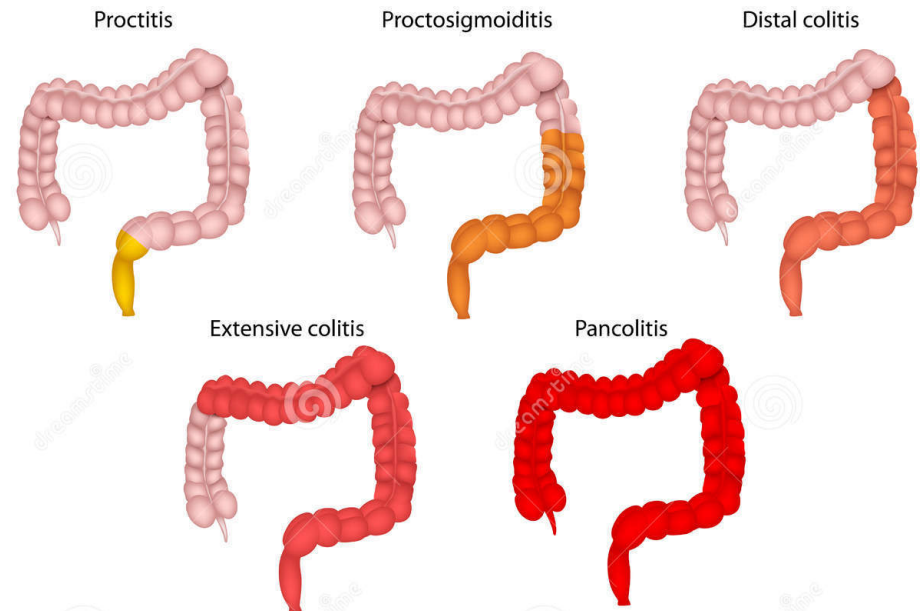
- Some studies showed that **cigarette smoking** may decrease the symptoms of ulcerative colitis and protect from it, and increases the risk for crohn's disease and worsens the disease for those who have it.
- **Appendectomy** is protecting from ulcerative colitis and decrease symptoms.
- **Obesity** (food that lead to it, not itself) increase risk of IBD

# 1) Ulcerative Colitis (UC):

- Recurring and **continuous** Inflammation and ulceration of the **mucosa of the large intestine**.
- Almost always involve the **rectum** and extend proximally (if the rectum is free of inflammation consider other diagnoses than UC ), It extends in a continuous fashion (No skip lesions).

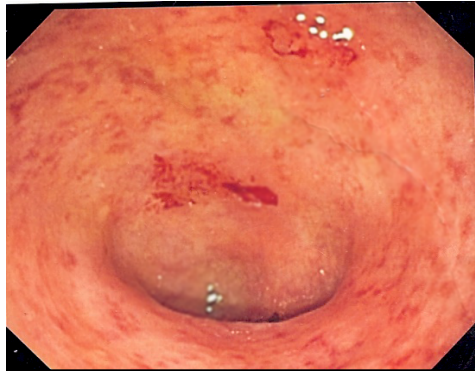


## TYPES OF ULCERATIVE COLITIS





## Macroscopic appearance

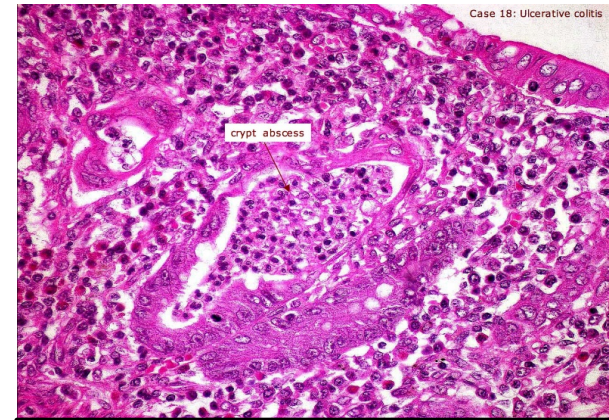


Erythematous mucosa, has a granular surface, looks like sand paper.  
**In severe:** hemorrhagic, edematous and ulcerated



In fulminant disease a toxic colitis or a **toxic megacolon** may develop

## Microscopic appearance



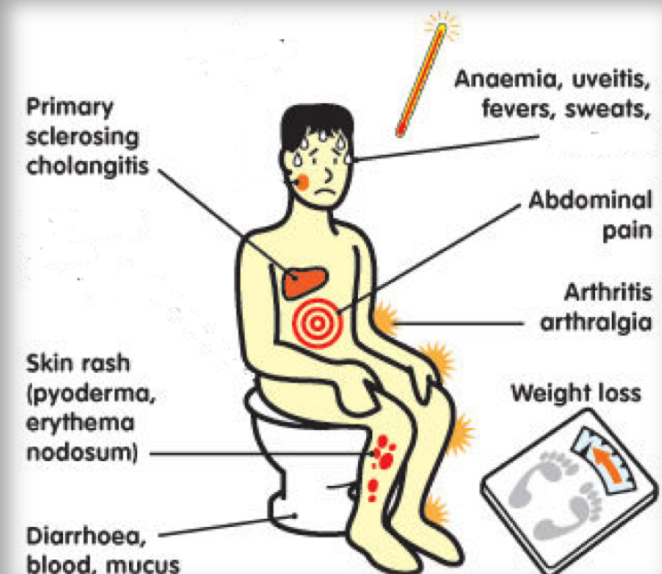
**Crypt abscesses**  
 Branching of crypts,  
 Atrophy of glands,  
 Loss of mucin in goblet cells

### The major symptoms of ulcerative colitis:

- **Diarrhea**
  - **Rectal bleeding**
  - Tenesmus (painful passing of stool, usually with mucus).
  - Crampy abdominal pain & Fever
  - Exam is often normal unless complications occur.
- # If fever exist, exclude perforation or toxic megacolon.

### Extra-Intestinal Manifestations: (Which suggest it's an autoimmune disease)

- Uveitis and Episcleritis
- Erythema Nodosum and Pyoderma Gangrenosum
- Arthritis
- Ankylosing Spondylitis
- Sclerosing cholangitis



# Treatment:

Mainly medical treatment, but if fails we go to surgery treatment (**Which is considered the cure for the disease**).

**Medical treatment:** (Detailed in medicine lecture)

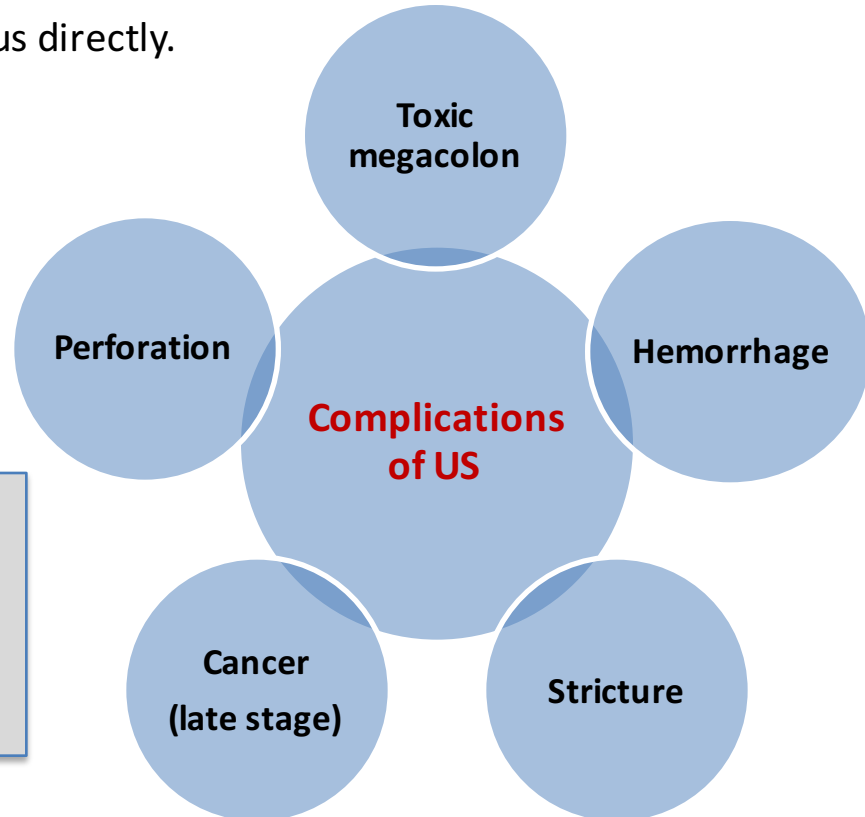
1. Systemic corticosteroids "Prednisolone" are used for acute exacerbations
2. 5-ASA (Sulfasalazine) as maintenance therapy
3. Anti TNF therapy Infliximab

## Surgical Treatment:

**Total proctocolectomy with either ileostomy** (removal of rectum and colon then connection of small intestines to stoma) or anastomosis of the ileum to the anus directly.

## Indications of surgery:

1. Failure of medical treatment
2. Treating complications →
3. Patient wish (can't cope with the disease or the medical treatment)
4. Prophylaxis for cancer



### # Notes:

- In surgical treatment, usually we do appendectomy too.
- After Removal of colon, all manifestations will be cured except for Ankylosing Spondylitis & Sclerosing cholangitis

## 2) Crohn's Disease (CD):

### Features :

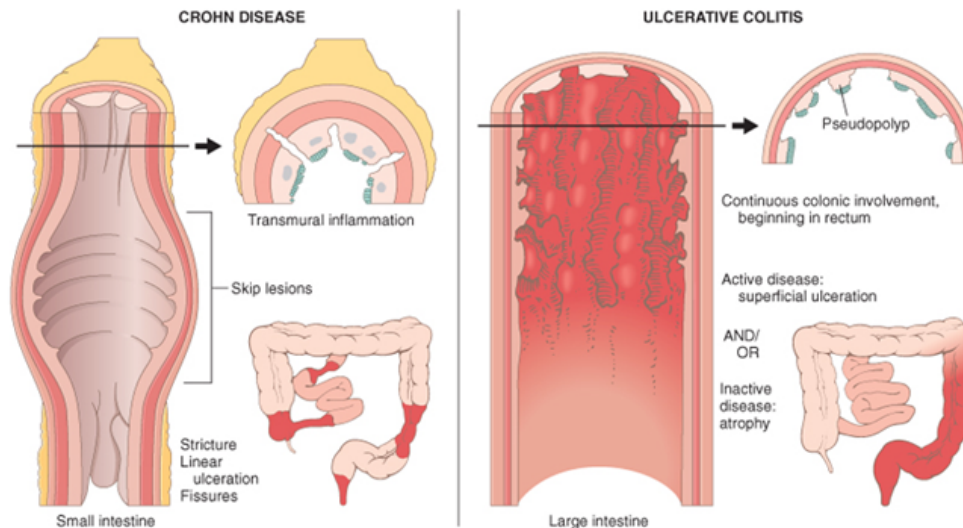
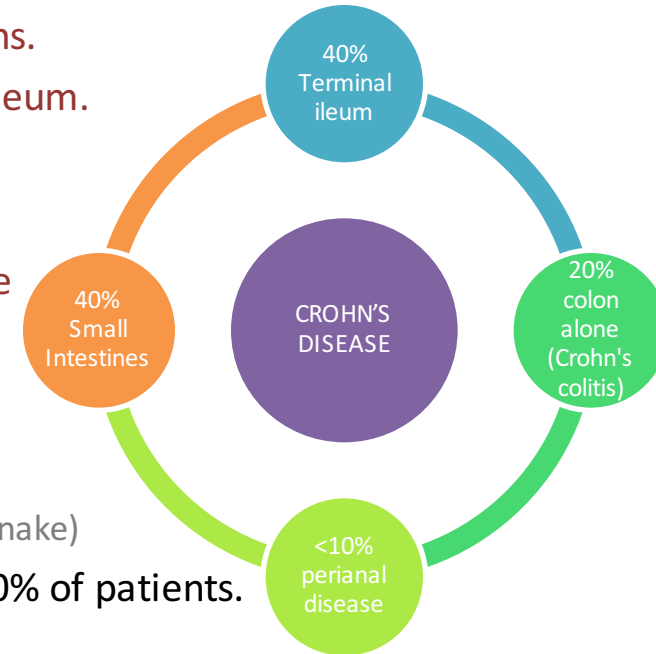
- An inflammatory disease that affects any part of the GI tract (mouth to anus)
- Recurring **transmural** Inflammation of the bowel, with **skip lesions**.
- About 80% have small bowel involvement, mostly **the terminal ileum**.

### MACROSCOPIC APPEARANCE:

- In more severe diseases there would be **cobblestone appearance**
- Thickening of the bowel wall **with creeping fat**.

### MICROSCOPIC APPEARANCE:

- **Transmural inflammation** .
- Focal ulcerations (**skip lesions**) run in serpiginous fashion (like a snake)
- Granulomas (**noncaseating granuloma** ) may be noted in up to 30% of patients.



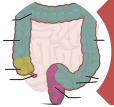
A recent research shows a possible link between Mycobacterium Paratuberculosis and Crohn's Disease



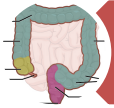
## • CROHN'S DISEASE PRESENTATION:



Crampy abdominal pain



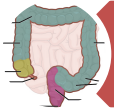
Diarrhea (rarely accompanied by blood, like in UC)



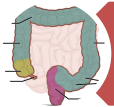
Weight loss



Colitis and Perianal disease (If a patient presents with a perianal disease that resists treatment, consider CD)



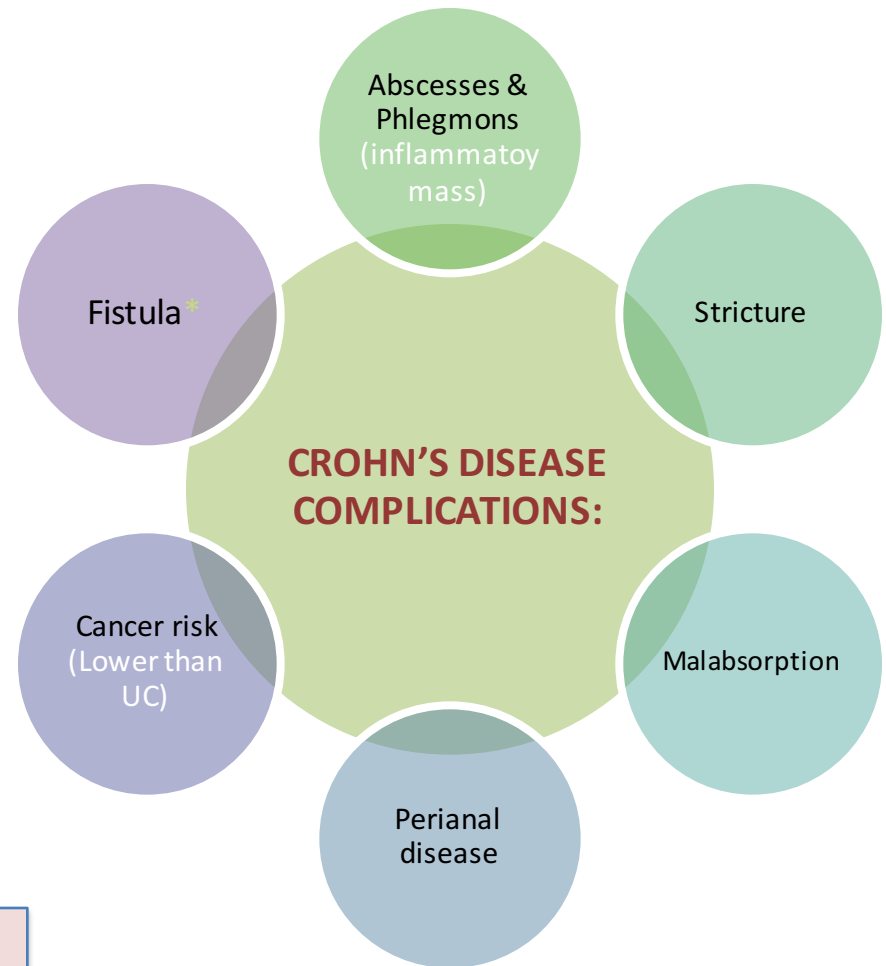
Duodenal Disease (duodenal stricture)



Aphthous or small superficial ulcers

### Extra-Intestinal Manifestations:

- Uveitis and Episcleritis
- Erythema Nodosum and Pyoderma Gangrenosum
- Sclerosing cholangitis (Rare with CD)
- Renal stones
- Gall stones (due to interruption of entero-hepatic circulation of bile salts in terminal ileum, causing cholesterol deposition in gall bladder)
- Amyloidosis



### \*Fistulas:

fistulas are tracts or communications that connect two epithelial-lined organs.

- Enterovesical** "between small bowel and urinary bladder"
- Enterocutaneous** "between small bowel and skin"
- Enterointeric** "between small bowel and small bowel"
- Enterovaginal** "between small bowel and vagina"

# Treatment

Mainly **medical treatment**, surgery is just to treat complications (**not curative**)

**Medical Treatment:** (Detailed in medicine lecture)

- Oral 5-aminosalicylates (sulfasalazine)
- Antibiotics (ciprofloxacin, Metronidazole)
- Glucocorticoids (Prednisone)
- Immunomodulators (Azathioprine)
- Anti-TNF (infliximab)

In crohn's disease, the patient continues taking medications after surgery. On the other hand, no need for medication after surgery in ulcerative colitis.

**Surgical treatment:**

**Not curative**, there will be **segmental resection** (resection of the affected area of bowel, not total as in ulcerative colitis) because even if you do total resection, the disease may recur in any part of the gastrointestinal tract. In addition, resection of large segment of bowel may lead to Short bowel syndrome which leads to malabsorption.

**Indication of surgery:**

- Failure of medical management
- Treating complications like abscess, fistula, phlegmons, stricture or cancer.

This is a very helpful video to understand the surgical intervention in IBD:

<https://www.youtube.com/watch?v=1H5vuQzp4As>



# MCQs

Q1 : One of the indications for surgical intervention in crohn's disease is :

- A- patient's wish
- B-when inflammation is restricted to ileum
- C- fistula formation
- D- development of extra intestinal manifestations.

Q2: Which of the following extra intestinal manifestations persist in ulcerative colitis after total colectomy :

- A- arthritis
- B- Uveitis
- C-Erythema Nodosum
- D-Sclerosing cholangitis

Q3- Which of the following is a feature of ulcerative colitis :

- A- skip lesions
- B- crypt abscess
- C- transmural inflammation
- D- granuloma



# Thank You..

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