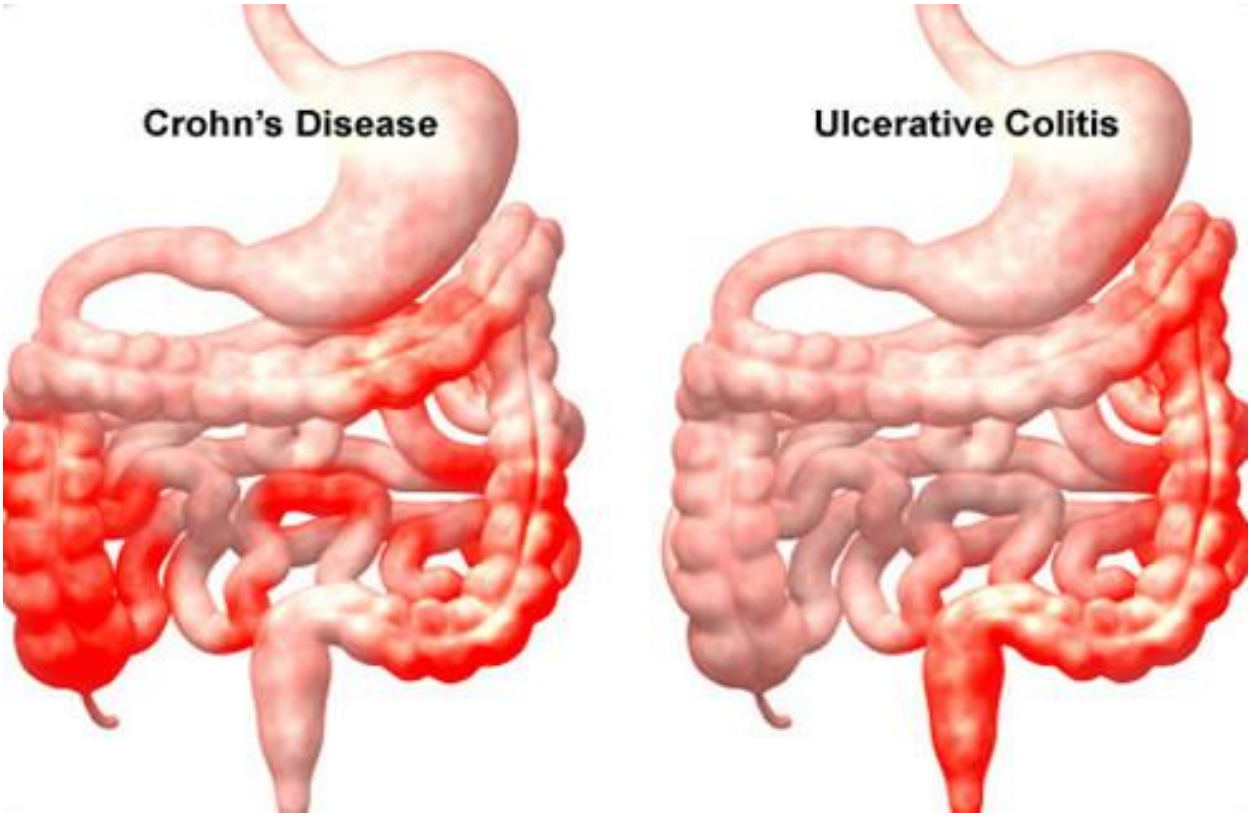

Inflammatory Bowel Disease

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Objective:

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

Color Index:
-Doctor's Notes -Surgery Recall -Doctor's Slides -Important

Colitis DDx: -Inflammatory -Infectious (Ex.Amoebic, ,TB, Salmonella, E-coli) -Miscellaneous:Immunological (Lymphocytic)..
You need to do the following in IBD:
1s: Establish Dx, and Exclude DDx.
2nd: asses the extent of the disease
3rd:asses the severity (give Iv steroids or oral??, add biological therapy as maintenance??

Definition	• Two chronic diseases that cause ulceration & inflammation of the intestines: Ulcerative Colitis (UC) & Crohn's Disease (CD). ▪ They have some features in common but there are some important differences. 20% of patients have clinical picture that falls in between (indeterminate colitis) ▪ Usually we can differentiate between these two, but 20% grossly it looks like UC while the microscopic features says it CD, ▪ Also, sometimes the biopsy looks like UC but the clinical features suggests CD. ▪ ما يهم أطباء الباطنة التفريق بين المرضين لان بالنهاية يعطونهم نفس العلاج، لكن الجراحين يهتمون جداً بالتفريق عشان الUC ممكن نعالجه تماماً بجراحه بينما CD ال relapse ممكن جداً بعد الجراحة فراح نشيل من الأمعاء مرة وراء مرة بدون فايدة.
Epidem-iology	• Most numbers are North American, Increasingly diagnosed in KSA
Patho-physiology	**Unclear, but a number of factors may be involved:**

1.Host Factors:	2.Environmental Factors:
Genetics (Twins, Relatives, & children) *ashkenazi jews.	*Smoking{CD (Causative) vs UC(Protective)}, *Infection(measles and paratuberculosis*), migration to endemic area"Ex.Canada" However, when they treated the IBD with Anti-bacterial⇒ no response :(

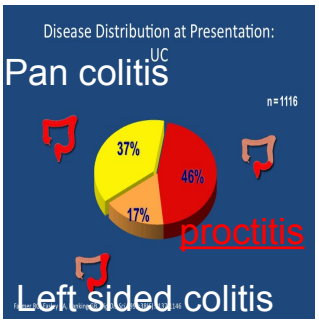
Current Theory:There is a genetic defect that affects the immune system, so that it attacks the bowel wall in response to stimulation by an offending antigen, like a bacteria, a virus, or a protein in the food

Ulcerative Colitis

In order to say this pt has UC⇒ The rectum Almost always is involved (b/c it's ascending inflammation & ulceration of the colon but never gets to small intestine, if it reaches the intestine it isn't UC⇒ CD)

Definition

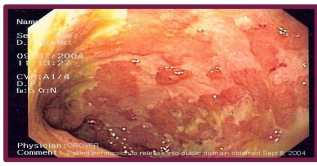
- An inflammatory disease of the large Intestine **"COLON".**
- Recurring Inflammation and ulceration of the mucosa of the large intestine
- Almost always involve the rectum and extend proximally "Proctitis is the most common"



Macroscopic Appearance

- Erythematous mucosa, has a granular surface, looks like sandpaper (Enlarged Ulcer⇒ sandpaper حبيبيات see the pic)
- In more severe diseases hemorrhagic, edematous and ulcerated
- In fulminant disease a toxic colitis or a toxic megacolon may develop

Toxic⇒ sepsis+febrile+abdominal pain/
Megacolon⇒ acutely+massively distended colon



Microscopic Appearance

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

major presentations

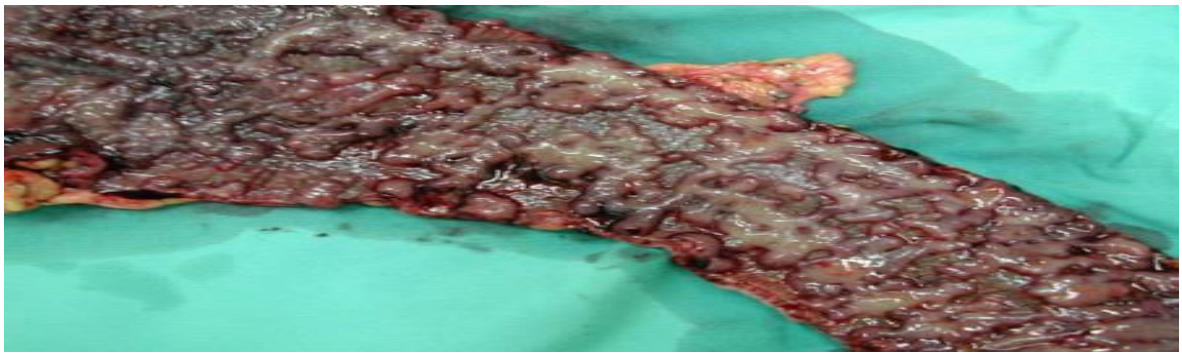
- Diarrhea (4 to more than 10), **1st DDx in bloody diarrhea**
- Rectal bleeding
- Tenesmus **"recurrent inclination to evacuate the bowels"**& Passage of mucus
- Crampy abdominal pain & Fever
- Exam is often normal unless complications occur.

Complications

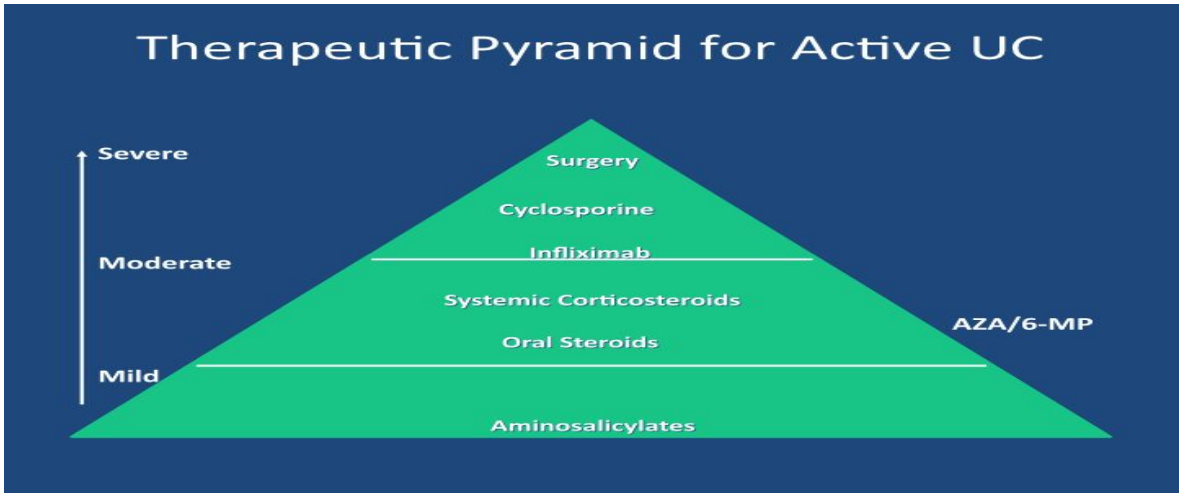
Phlegmons & abscesses
Fistulas
Stricture
Malabsorption
Perianal disease
Cancer risk

Extra-intestinal manifestations:

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



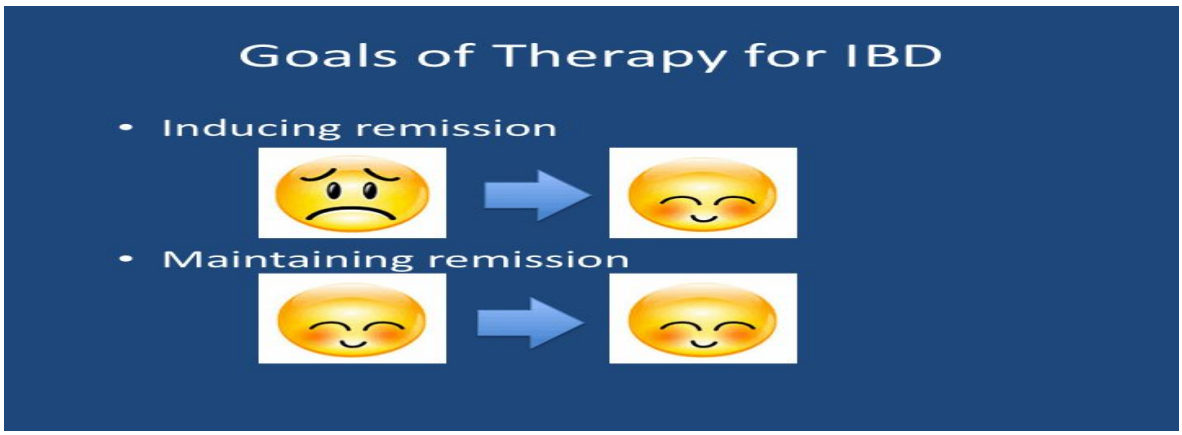
Ulcerative Colitis



Mainly medical treatment

Surgical treatment:

- Failure of medical management
- Treating complications
- Prophylaxis for cancer
- Cure after colectomy



Medical therapy of active ulcerative colitis according to disease severity

Disease severity	Medication	Daily dose
Mild-to-moderate disease		
	Sulfasalazine	1 to 1.5 g PO four times daily
	Mesalamine	
	Delayed release EC tablet:	
	- Asacol*	800 to 1600 mg PO three times daily
	- Lialda*	2.4 or 4.8 g PO once daily (2.4 g initially; 4.8 g if no complete response)
	Extended release capsule:	
	- Apriso*	1.5 g orally (four Apriso* capsules) in the morning once daily
	Controlled release capsule:	
	- Pentasa*	500 to 1000 mg PO four times daily
	Olsalazine	1 to 1.5 g PO twice daily
	Balsalazide	2.25 g PO three times daily
	Mesalamine suppository	1000 mg at night
	Hydrocortisone foam 10% (rectal)	90 mg (one applicatorful) at night or twice daily
	Mesalamine enema	4 g at night
	Hydrocortisone enema	100 mg at night
	Sulfasalazine/oral 5-ASA plus 5-ASA enemas/steroid enema	
	Prednisone	40 to 60 mg PO once daily
Severe active disease		
On steroids recently	Methylprednisolone	48 to 60 mg IV once daily
	Hydrocortisone	100 mg IV every 6 hours or as continuous infusion
	Cyclosporine	See topic review for dosing
	Infliximab	See topic on "Anti-tumor necrosis factor therapy in ulcerative colitis"
Toxic megacolon	Intravenous corticosteroids	See topic on "Toxic megacolon"
	Broad-spectrum antibiotics	
Chronic active disease (steroid refractory)	Mercaptopurine	See topic on "Azathioprine and 6-mercaptopurine in ulcerative colitis"
	Azathioprine	
	Infliximab	See topic on "Anti-tumor necrosis factor therapy in ulcerative colitis"

5-ASA: mesalamine, olsalazine, or balsalazide; anti-TNF: anti-tumor necrosis factor; UC: ulcerative colitis; EC: enteric coated.
* United States brand names.

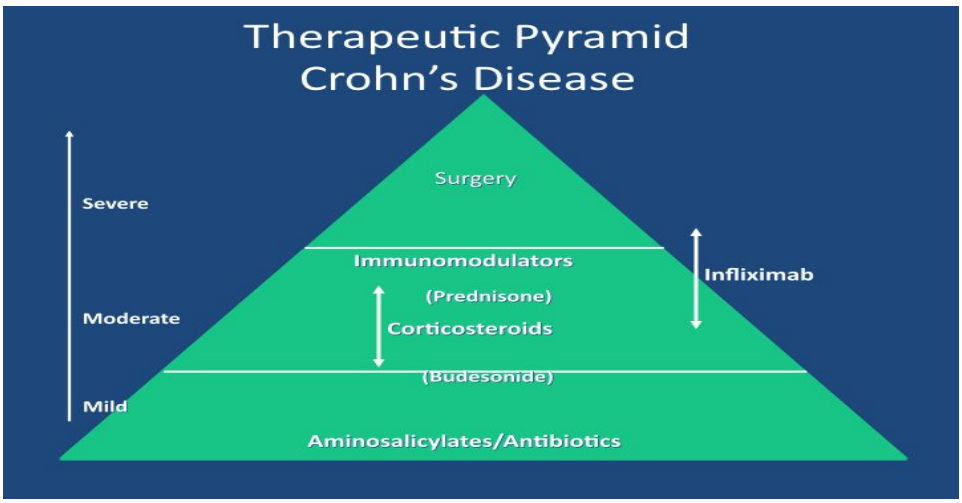
Crohn's Disease

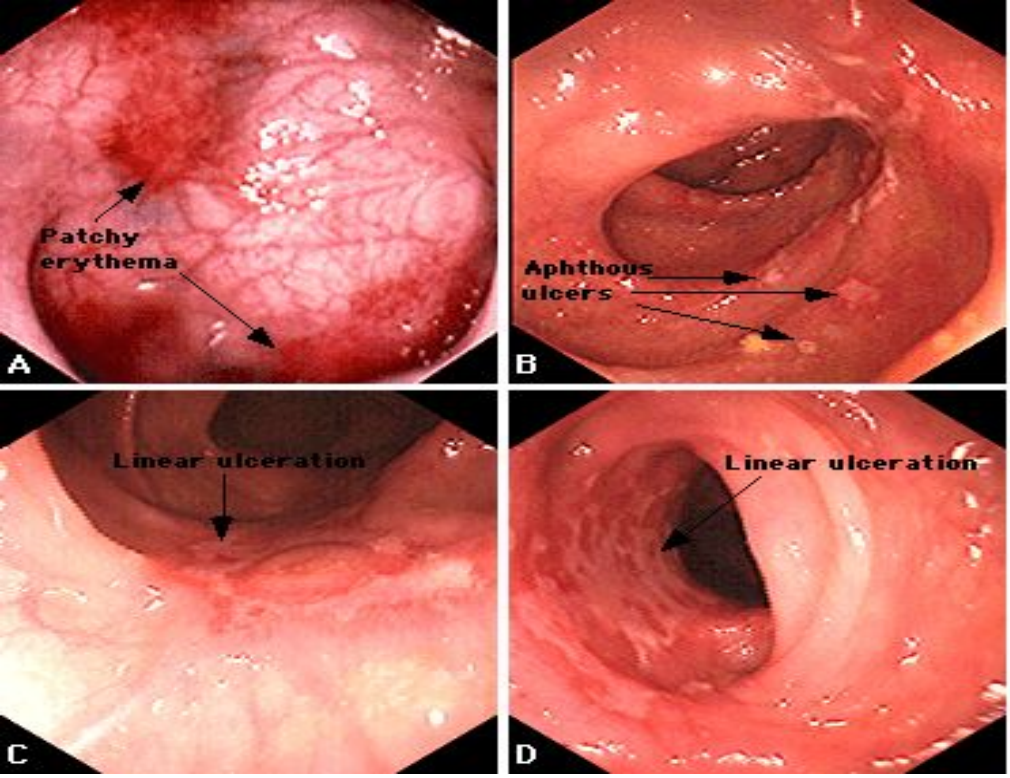
"It affects mouth to anus"

Definition	▪ An inflammatory disease that affects any part of the GI tract ▪ **Recurring transmural** Inflammation of the bowel ▪ About 80% have small bowel involvement, mostly the **terminal ileum**
Macroscopic Appearance	*Mild disease has **aphthous** or **small superficial ulcers** **(In severe cases > Liner Ulcers).** *In more severe diseases there is the characteristic **cobblestone appearance + Thickening of the bowel wall with creeping fat.** ***You will see skip lesions in crohn's and it is called "Island of Mucosa".** ***Fistulas are very common in Crohn's.**
Microscopic Appearance	***Transmural inflammation** *Focal ulcerations ***Acute and chronic inflammation** **(You will find Lymphocytes in crohn's while in ulcerative colitis you will find polymorphic nuclear cells limited to mucosa and submucosa)** ***Granulomas** may be noted in up to 30 percent of patients
major presentations	*Crampy abdominal pain *Diarrhea *Weight loss *Colitis and Perianal disease *Duodenal Disease
Complications	*Phlegmons & abscesses *Fistulas *Stricture *Malabsorption *Perianal disease *Cancer risk

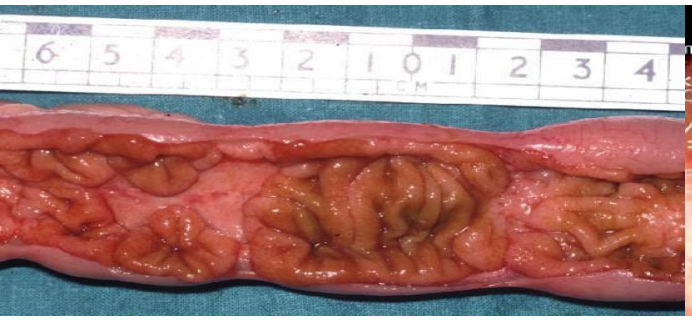
Crohn's Disease, Con't

Extra-intestinal manifestations	▪ Uveitis and Episcleritis ▪ Erythema Nodosum and Pyoderma Gangrenosum ▪ Sclerosing cholangitis ▪ Renal stones ▪ Gallstones ▪ Amyloidosis	
Treatment	**1-Mainly medical treatment**	**2-Surgical treatment**
	***Oral:** **5-aminosalicylates (sulfasalazine)** **Antibiotics (Cipro, Metronidazole)** **Glucocorticoids (Prednisone)** **Immunomodulators (Azathioprine)** **Biologic therapies (infliximab)**	▪ **Failure of medical management** ▪ **Treating complications** ▪ **Not a Cure:** **It will recur even after surgery**

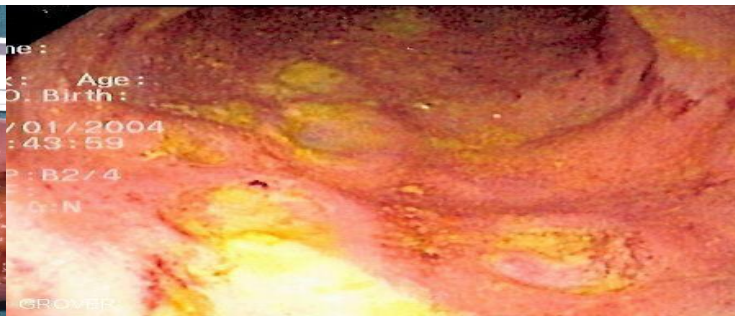




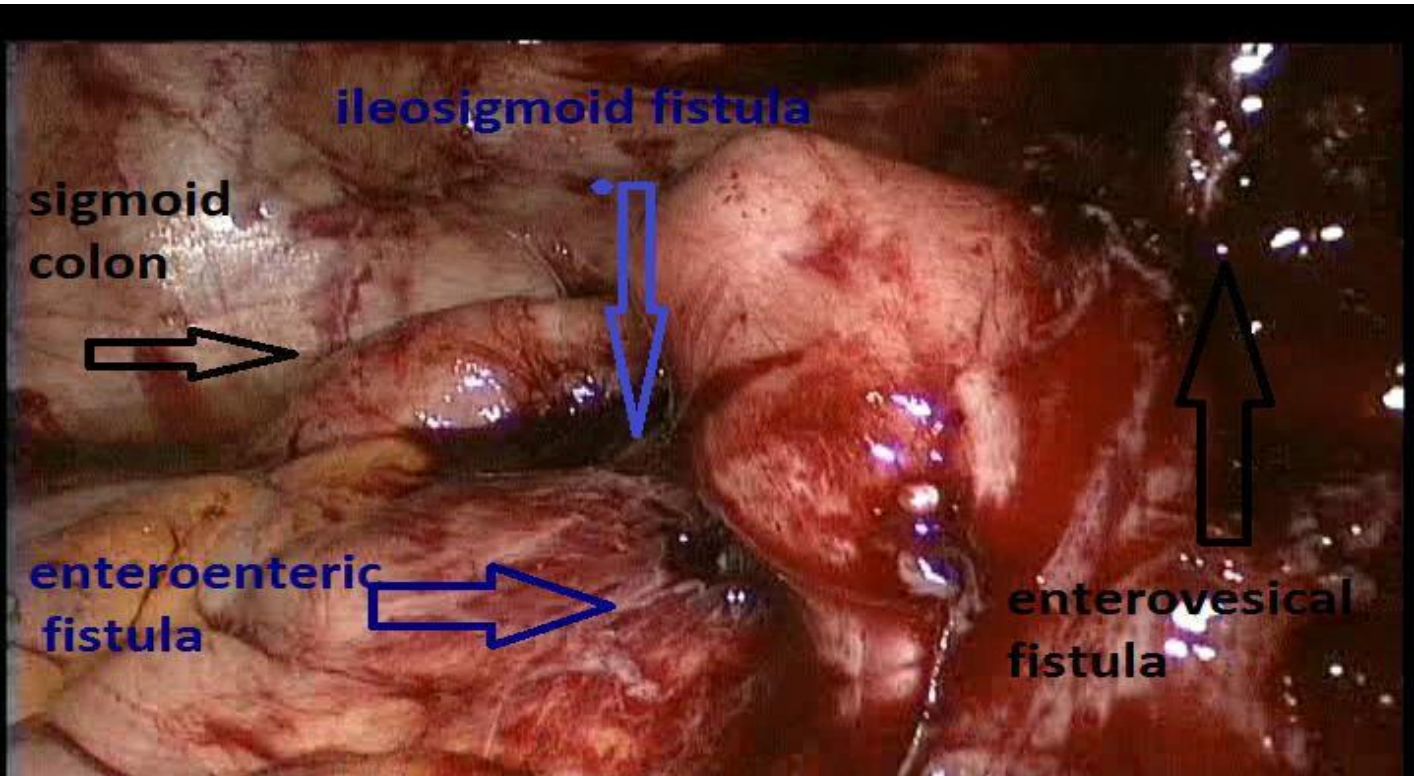
Endoscopic progression of Crohn's disease
Ulcers are the dominant endoscopic feature in Crohn's disease. These tend to be linear and discontinuous, or "skip lesions". Early changes may be only patchy erythema (panel A) or aphthoid ulcers (panel B). Linear ulcers (panel C) are seen with more advanced disease, culminating in very deep and long serpiginous ulcers (panel D). Courtesy of James B McGee, MD.



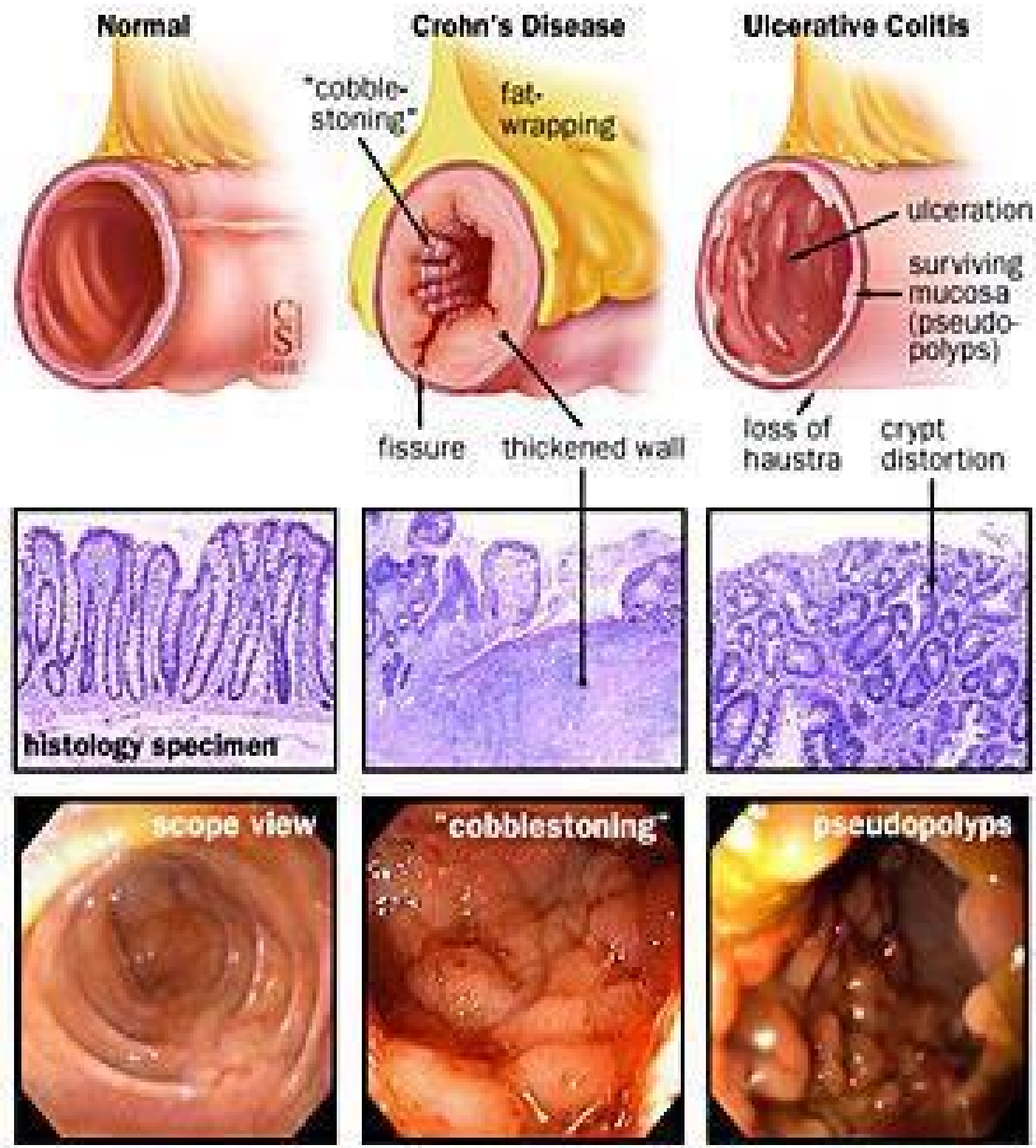
"Island of Mucosa"



Skip lesions with creeping fat



Summary.


Normal
Crohn's Disease
Ulcerative Colitis
"cobble-stoning"
fat-wrapping
ulceration
surviving mucosa (pseudo-polyps)
fissure
thickened wall
loss of haustra
crypt distortion
histology specimen
scope view
"cobblestoning"
pseudopolyps

Summary
"Crohn's Disease" Vs "Ulcerative Colitis"

	Ulcerative Colitis	Crohn's Disease
Sex	Female> Male	Male> Female
Age	1st Peak 25-40yrs 2nd 50-65 yrs	1st 20-35yrs 2nd 50-65yrs
Blood in stool	Yes **Bloody diarrhea (hallmark)**, fever, weight loss	Occasionally **Abdominal Pain, diarrhea,** fever, weight loss & anal disease
Mucus	Yes	Occasionally
Systemic symptoms	Occasionally	Frequently
Pain	Occasionally	Frequently
Abdominal mass	Rarely	Yes
Perineal disease	No	Frequently
Fistulas	No Mucosa/submucosa only	Yes Full thickness/transmural

Summary, Con't
"Crohn's Disease" Vs "Ulcerative Colitis"

	Ulcerative Colitis	Crohn's Disease
Small intestine Obstruction	No	Frequently
Colonic obstruction	Rarely	Frequently
Response to antibiotic	No	Yes
Recurrence after surgery	No	Yes
Rectal sparing	Rarely	Frequently fistula/abscesses/fissures/ulcer
Continuous disease	Yes	Occasionally "**skip areas,** regional enteritis"
Cobblestoning	No	Yes
Granuloma On biopsy	No	Occasionally

Summary, Con't
"Crohn's Disease" Vs "Ulcerative Colitis"

	Ulcerative Colitis	Crohn's Disease
Mucosal findings	1.Granular,flat mucosa 2. Ulcers 3. Crypt abscess 4. Dilated mucosal vessels 5. Pseudopolyps	1. Aphthoid ulcers 2.Granulomas 3. Linear ulcers 4. Transverse ssures 5. Swollen mucosa 6.Full-thickness
Diagnostic tests	Colonoscopy with biopsy, barium enema, UGI with small bowel follow-through, stool cultures	
Complications	Cancer, toxic megacolon, colonic perforation, hemorrhage, strictures, obstruction, complications of surgery	Anal fistula/abscess,fistula, stricture, perforation, abscesses, toxic megacolon, colovesical fistula, enterovaginal fistula, hemorrhage, obstruction, cancer
Indications of surgery	Toxic megacolon (refractory to medical treatment); cancer prophylaxis; massive bleeding; failure of child to mature b/c of disease and steroids; perforation; suspicion of or documented cancer; acute severe symptoms refractory to medical treatment; inability to wean off of chronic steroids; obstruction; dysplasia; stricture	Obstruction, massive bleeding, fistula, perforation, suspicion of cancer, abscess (refractory to medical treatment), toxic megacolon (refractory to medical treatment), strictures, dysplasia

ReCALL

-What is the cause of IBD?
No one knows, but probably an autoimmune process with environmental factors contributing

-What are the extraintestinal manifestations seen in both types of IBD?
Think of the acronym "A PIE SACK":
Aphthous ulcers
Pyoderma gangrenosum Iritis
Erythema nodosum
Sclerosing cholangitis
Arthritis, Ankylosing spondylitis Clubbing of fingers
Kidney (amyloid deposits, nephrotic syndrome)

-What is "backwash" ileitis?
Mild inflammation of the terminal ileum in ulcerative colitis; thought to be "backwash"of inflammatory mediators from the colon into the terminal ileum

-How can ulcerative colitis and Crohn's anal and wall involvement be remembered?
"CAT URP":
Crohn's⇒ Anal–Transmural
UC ⇒ Rectum–Partial wall thickness

-Which medications are used for Crohn's Disease but not U.C.?
Methotrexate, Antibiotics (e.g. Flagyl®/ Cipro®)

-What medication is used for IBD " are-ups"? Steroids

-What is a unique medication route option for ulcerative colitis?
Enemas (steroids, 5-ASA)

-Which disease has a "lead pipe" appearance on barium enema?
Chronic UC

-What are the intraoperative findings of Crohn's disease?
Mesenteric "fat creeping" onto the antimesenteric border of the small bowel, Shortened (and thick) mesentery thick bowel wall, Fistula(e) Abscess(es)