14 Inflammatory Bowel Disease

Done By:
Dana aldubaib

Reviewed By:
Abdullah alhuzaimi

جامعة الملك سعود
King Saud University

COLOR GUIDE: • Females' Notes • Males' Notes • Important • Additional

Objectives

1. Not given

Inflammatory bowel disease chronic inflammation of unknown etiology in the intestine.

- Two chronic diseases that cause ulceration & inflammation of the intestines
  - Ulcerative Colitis
  - Crohn's Disease.

General features:

- They have some features in common but there are some important differences
- 20% of patients have clinical picture that falls in between (indeterminate colitis)

Pathophysiology

- Unclear
- A number of factors may be involved.

❖ **Environmental Factors**

- Smoking (Crohn's Vs Ulcerative) protective in ulcerative and a risk in crohn's
- Infection mainly by 1-mycobacterium avium paratuberculosis organism was isolated in crohn's and 2- also Measles Virus
- Oral Contraception

❖ **Host Factors**

- Genetics (Twins, Relatives, children) more in monozygotic twins
- Obesity
- Appendectomy protective in UC
- immunological " anti TNF

Note:

IBD seem more in North American and Ashkenazi Jewish.
But recently it's also increasing in Saudi Arabia.

Note:

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.

<table>
<tr><th>Ulcerarive colitis (UC)</th><th>Crohn's disease (CD)</th></tr>
<tr><td>

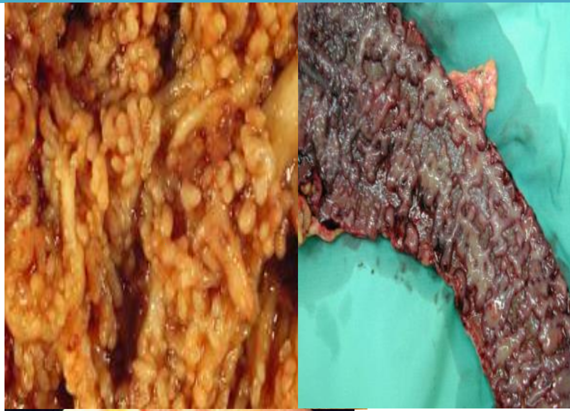
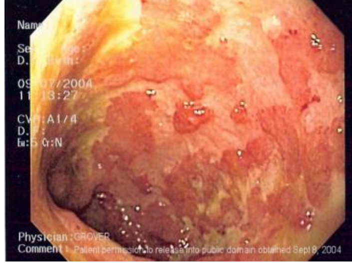
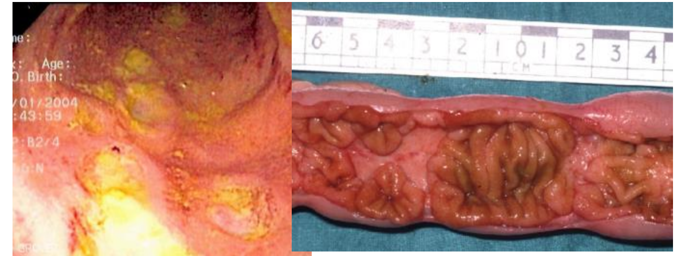
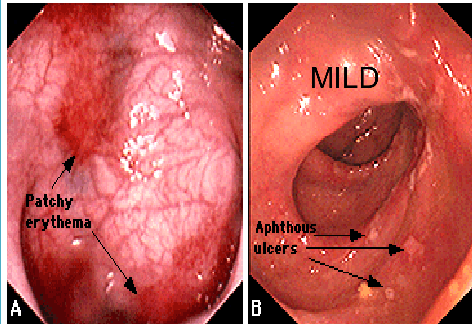
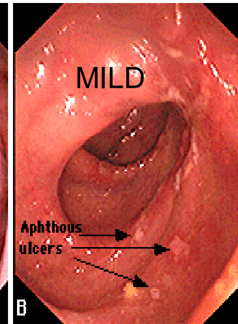
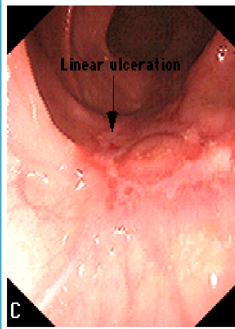
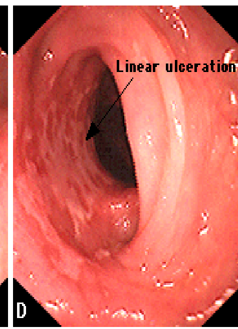
- An inflammatory disease of the large intestine Recurring Inflammation and ulceration of the mucosa of the large intestine ** inflammation is only seen in the surface mucosa
- Almost always involve the rectum and extend proximally
- It extends in a continuous fashion
- 40-50% of patients have disease limited to the rectum and rectosigmoid (majority)
- 30-40% of patients have disease extending beyond the sigmoid Left side + rectum
- 20% of patients have a total colitis pancolitis

</td><td>

- An inflammatory disease that affects any part of the GI tract Recurring transmural Inflammation of the bowel ** inflammation that spans the entire depth of the intestinal wall
- About 80% have small bowel involvement, mostly the terminal ileum
- Characterized by skip lesions
  - 30-40% of patients have small bowel disease alone
  - 40-55% of patients have both small and large intestines disease
  - 15-25% of patients have colitis alone

*rectum is spared ,
*perianal fistula in CD

</td></tr>
<tr><td colspan="2">20% of patients have indeterminate colitis. In this case the patient has features of CD and the true Diagnosis is UC, or vice versa. It's very important to differentiate them, because treatment varies.</td></tr>
<tr><td>*backwash ileitis : The small bowel is not usually involved in UC but may reach the distal ilium in a small percentage of patient involvement 10% seen in chronic ulcerative colitis</td><td></td></tr>
</table>

  -continuous ulceration , pseudopolyp , erythematous (this pictures from inside , the outside is normal)) -inflammation PMN infiltrate the mucosa and sub-mucosa only	     **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.
Microscopic Appearance ▪ Crypt abscesses ▪ Branching of crypts, ▪ Atrophy of glands ▪ Loss of mucin in goblet cells ' depletion '	**Microscopic Appearance** ▪ Transmural inflammation ▪ Focal ulcerations ▪ Acute and chronic inflammation ▪ Granulomas may be noted in up to 30 percent of patients (non caseating granulomas , unlike TB which causes ceasting granulomas)
The major symptoms of UC are: ▪ Diarrhea (4 to more than 10) bloody diarrhra , abdominal pain ▪ Rectal bleeding ▪ Tenesmus & Passage of mucus ▪ Crampy abdominal pain & Fever Tenesmus pathophysiology: Rectum is inflamed and fibrosed; sends messages to the brain that stool needs to be evacuated while it doesn't , false stamen that I am full all the time	**The major presentations of CD are:** ▪ Crampy abdominal pain watery diahrrhea ▪ Diarrhea (occasionally bloody but not as frequent as UC) ▪ Weight loss ▪ Colitis and Perianal disease ▪ Duodenal Disease

Complication - Hemorrhage - Toxic megacolon IN X-RAY : is defined as a severe episode of colitis with segmental or total dilatation of the colon. - Perforation - Stricture (Causing subacute obstruction) - Cancer Proven risk factor for colorectal cancer; *almost annual biopsies after 10 years are taken to look for dysplasia ' first change ')	**Complication** - Phlegmons (solid inflammatory mass) & abcesses - Fistulas - Stricture - Malabsorption (function of Small intestine) - Perianal disease - Cancer risk
Extra-intestinal manifestations - Arthritis (most common extra-intestinal manifestation) *according to step-up. - Uveitis and Episcleritis - Erythema Nodosum and Pyoderma Gangrenosum - Ankylosing Spondylitis - Sclerosing cholangitis (more common than chron's) (All extra intestinal manifestations disappear after colectomy except the last two)	**Extra-intestinal manifestations** - Uveitis and Episcleritis - Erythema Nodosum and Pyoderma Gangrenosum - Sclerosing cholangitis - Renal stones - Gall stones - Amyloidosis
Treatment o **Mainly medical** treatment (Elective) (** if mild give oral steroid , if sever symptoms administer to the hospital and give IV steroid)) dr said go through true love criteria =)scroll down, you will find it at the end of the lecture	**Treatment** o **Mainly medical** treatment -Oral 5-aminosalicylates (sulfasalazine) -Antibiotics (Ciprofloxacin, Metronidazole) -Glucocorticoids (Prednisone) -Immunomodulators (Azathioprine) -Biologic therapies (infliximab)

o Indications for surgical treatment: ▪ Failure of medical management (despite maximum medical therapy , non compliance , sever adverse effect despite treatment) ▪ Treating complications (E.g: Steroid dependency – failure to thrive – SE of medications) ▪ Prophylaxis for cancer (discover a mass or dysplasia ▪ Cure after colectomy o Emergent surgeries: • Hemorrhage • Toxic megacolon (Fulminant colitis) • Perforation • Stricture o You enter the abdomen once and take the large bowl out (remove the entire colon and make a pouch; contraindicated in emergent cases and cancer). o Curable, no need for medication after surgery.	o Indications for surgical treatment: ▪Failure of medical management ▪Treating complications ▪Not cured by medications o Surgery is needed only to keep the patient in the remission phase; even if surgery is performed there is a high incidence for recurrence and patient will still be on medications. So if you do surgery you keep it minimized to the lesion only. Dr. said: rarely it becomes difficult to differentiate between UC and Crohn's and sometimes doctors misdiagnosed them if crohn's was affecting the colon only (crohn's colitis). However, it is very important for surgeons to check and make sure the diagnosis is correct because as we mentioned, UC is curable by surgery.

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.

**Medical treatment of UC : Dr didn't discuss it and he said go back to medicine

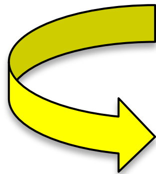


Table 1 Truelove and Witts' classification of severity of ulcerative colitis [1]

Activity	Mild	Moderate	Severe
Number of bloody stools per day (*n*)	<4	4–6	>6
Temperature (°C)	Afebrile	Intermediate	>37.8
Heart rate (beats per minute)	Normal	Intermediate	>90
Haemoglobin (g/dl)	>11	10.5–11	<10.5
Erythrocyte sedimentation rate (mm/h)	<20	20–30	>30

SUMMARY

UC: An inflammatory disease of the large intestine "RECTUM MOSTLY And extend proximally ' Inflammation and ulceration of the mucosa .

- **It extends in a continuous** no skip lesions.
- macroscopically from outside is normal and inside **Fragile and Erythematous mucosa**
- Microscopic Appearance **Crypt abscesses AND Loss of mucin in goblet cells**
- Patient will present with bloody diarrhea and Tenesmus & Passage

Crohn's An inflammatory disease that affects any part of the GI tract, Recurring transmural Inflammation of the bowel.

- Characterized by skip lesions
- Macroscopic Appearance: Mild disease has aphthus or small superfecial ulcer (Linear ulcer), cobblestone appearance And creaping fat.
- Microscopic Appearance: Transmural inflammation, Focal ulcerations And Granulomas
- Patient will present with crampy abdominal pain watery diahrrhea
- Weight loss
- Colitis and Perianal disease

Questions

1- 30 years old female presented with abdominal pain and bloody diarrhea, colonoscopy and biopsy was done. Which one of the following histological features will be suggested diagnosis Ulcerative Colitis?

A. Uniform crypt abscess with goblet depletion

B. Mononuclear cell infiltrate with non caseating granuloma

C. Mucosal and submucosal thickening with fibrosis and stricture

D. Neuronal hyperplasia with vacuities and aphthoid ulcer

2- Which one of the following organisms is thought have a role in etiology of Crohn’s disease:

A. Mycobacterium tuberculosis

B. Mycobacterium paratubercolosis

C. Campylobacter jujeni

D. Salmonella typhosa

3- A 22 y/o male presents to the clinic complaining of abdominal pain, diarrhea and weight loss lasting for one month. He gave a history of occasional occult bleeding in stool. The most likely diagnosis is:

A. Crohn's disease

B. Peptic ulcer

C. Incarcerated hernia

D. Intestinal obstruction

4- Features of the previous diagnosis include all the followings EXCEPT:

A. Mucosal ulceration separated by normal mucosa

B. All cases should be treated surgically

C. The most common site is the ilium

D. Development of fistulae is a known complication

5- Crypt abscesses are a feature of:

A. Crohn’s Disease

B. Ulcerative Colitis

C. Colon cancer

D. Both A & B

6- Transmural inflammation of the colon is seen in:

A. Crohn’s Disease

B. Ulcerative Colitis

C. Colon cancer

D. Both A & B

7- A 25 year old female presents to your clinic complaining of 3 months history of recurrent crampy abdominal pain. Which one of the following points in history is suggestive of crohn's disease:

A. family history of inflammatory bowel disease

B. history of being non smoker

C. history of bloody diarrhea

D. history of perianal fissure

Answers:

1st Questions: A

2nd Questions:B

3rd Questions:A

4th Questions:B

5th Questions:B

6TH Question:A

7th Question:A