

## IBD and Colitis

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## Colitis: Causes

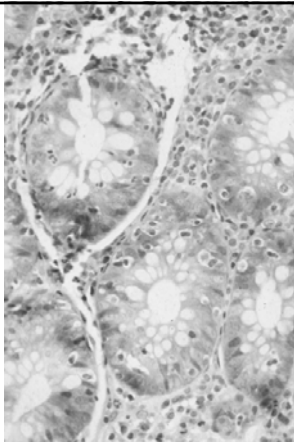
- **Infection** (viral, bacterial, fungal, parasitic)
- Toxicity (drugs)
- Allergy
- **Ischemia**
- Radiation
- Graft-vs-host disease
- **Idiopathic**

## Idiopathic Inflammatory Bowel Disease (IBD)

- Incidence: 1-2 million Americans
- Frequent in Jews (Ashkenazi)
- Genetic predisposition:  
1<sup>st</sup> degree family members 30-100 times; twin studies
- Candidate genes on chromosomes 12 and 16
- Interaction of epithelial factors (trefoil factors) and immune system factors (interleukins, IFN-gamma, TNF)

## Idiopathic Inflammatory Bowel Disease Definition

- Chronic relapsing inflammatory disease
- Unknown etiology
- Exacerbations
- Remissions
- Bloody diarrhea



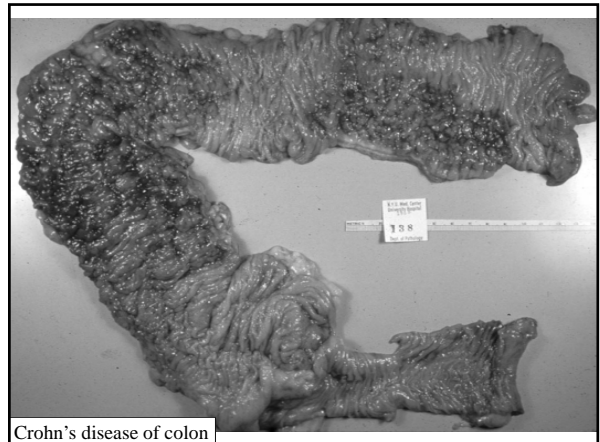
Acute cryptitis

## Crohn's Disease Classification

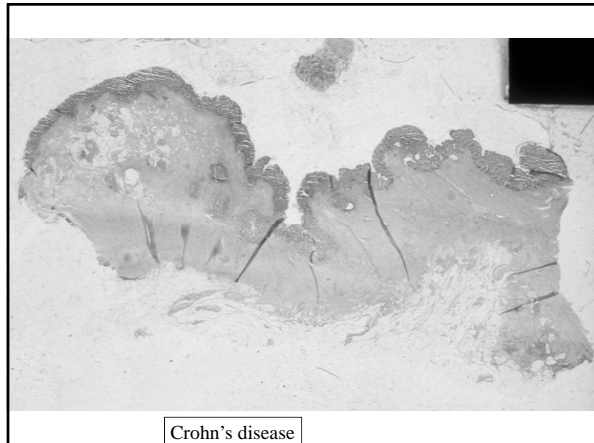
- Terminal ileitis (40%)
- Ileocolitis (30%)
- Colitis (30%)
- Upper GI Crohn's disease (2 - 20%)



Crohn's disease of ileum



Crohn's disease of colon



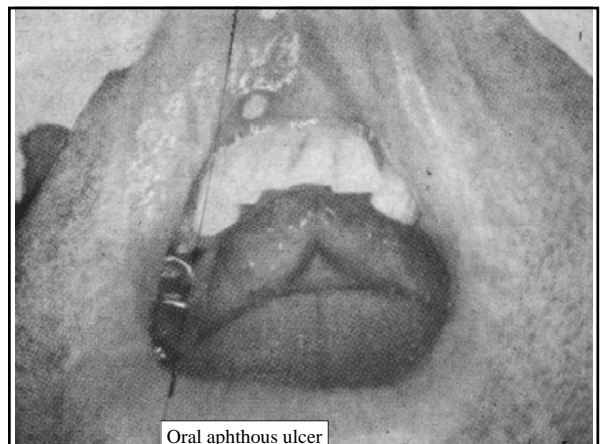
Crohn's disease

### Crohn's Disease Macroscopic Pathology

- Segmental
- Skip areas
- Stiff thickened bowel wall
- Linear ulcers
- Cobblestone mucosa
- Creeping fat
- Rectal sparing



Aphthous ulcer in Crohn's disease\_endoscopic view

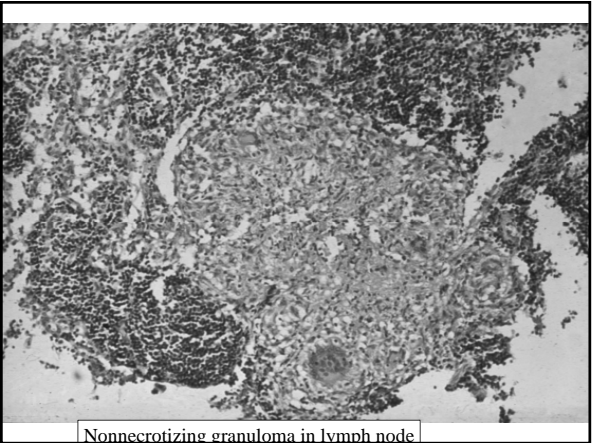
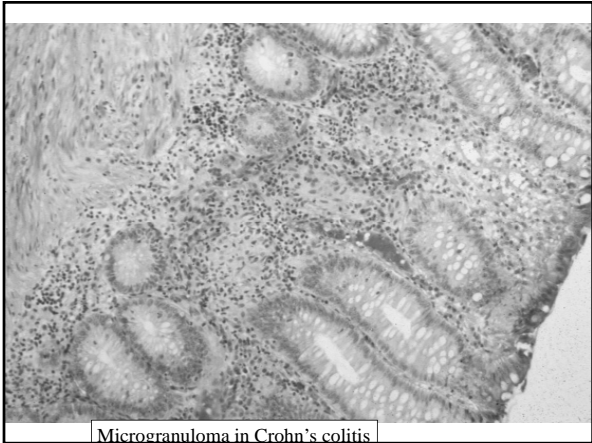
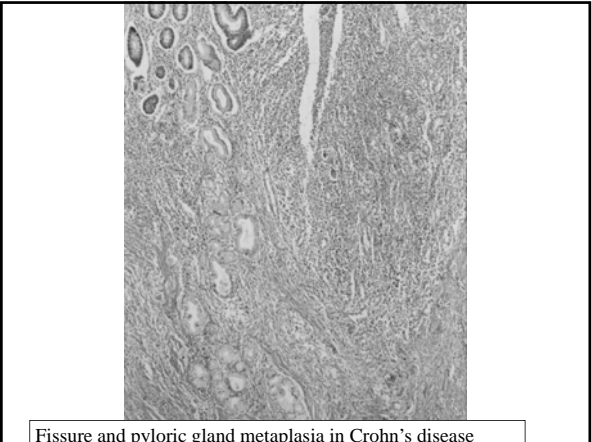


Oral aphthous ulcer

**Crohn's Disease**  
Microscopic Pathology

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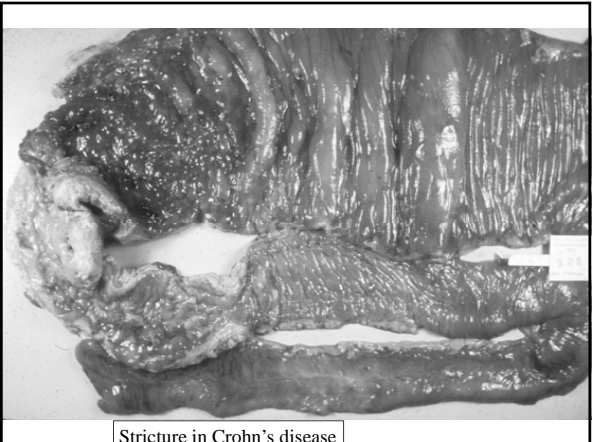
- Necrosis of individual epithelial cells
- Cryptitis and crypt abscesses
- **Aphthoid ulcers**
- **Fissures**
- **Patchy** chronic inflammation, **transmural**
- **Granulomas**
- Crypt irregularity
- Metaplasia: Paneth cell, **pyloric**



**Crohn's Disease**  
Complications

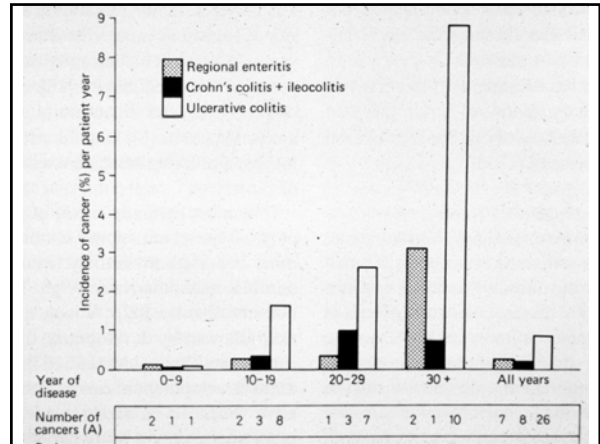
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- Stricture
- Fistulae
- Dysplasia
- Cancer (4 - 20x)





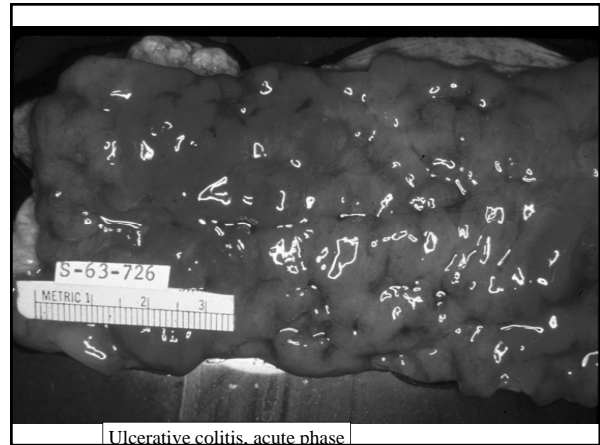
Fistula in Crohn's disease (colocutaneous)



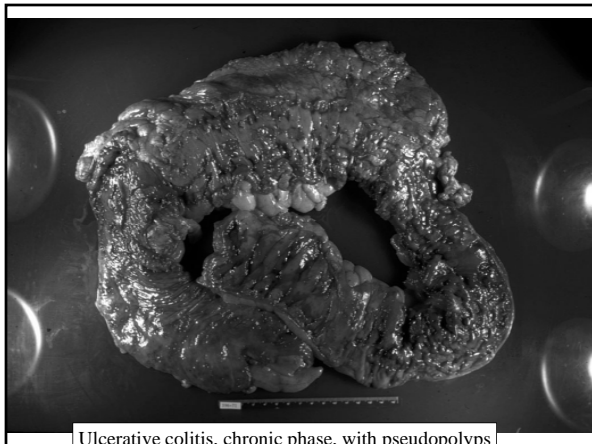
## Ulcerative Colitis

### Classification

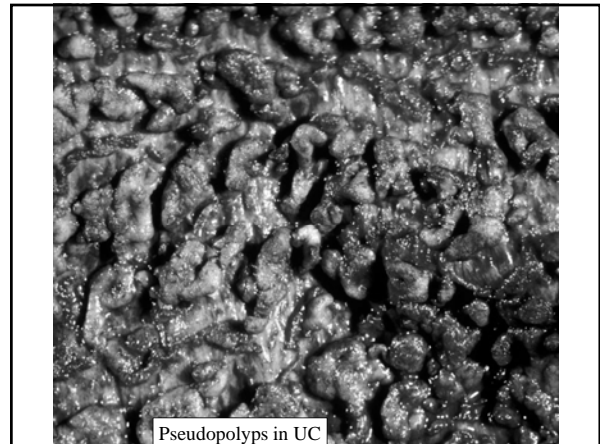
- Ulcerative proctitis / proctosigmoiditis (60 - 80%)
- Left-sided colitis (30 - 40%)
- Extensive colitis / pancolitis (10 - 20%)



Ulcerative colitis, acute phase



Ulcerative colitis, chronic phase, with pseudopolyps

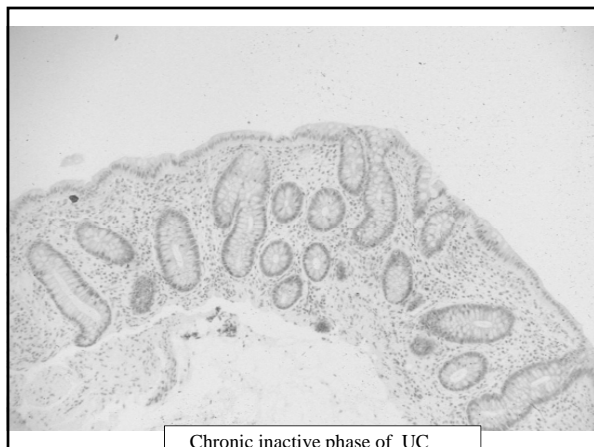
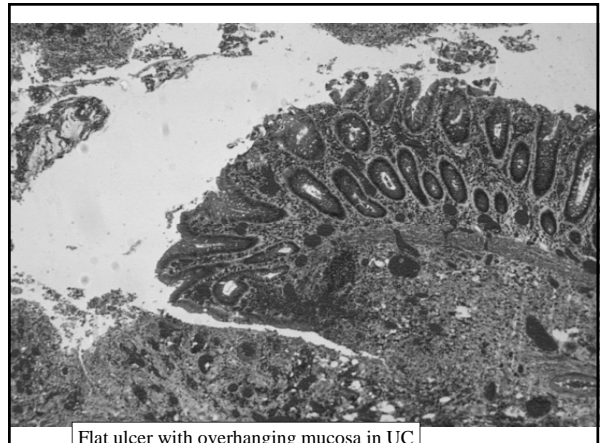
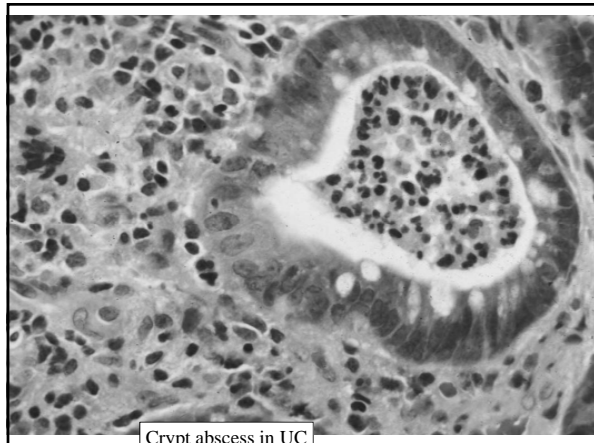
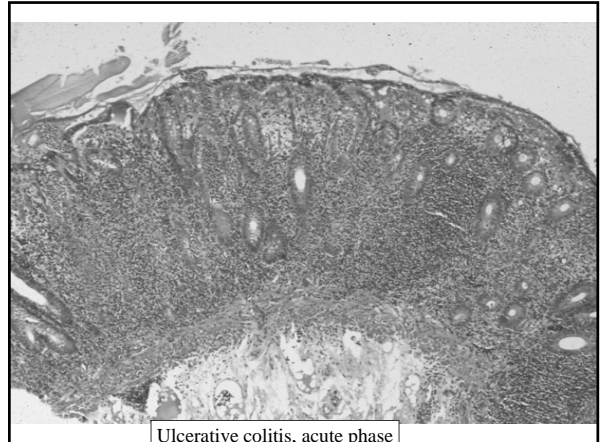


Pseudopolyps in UC

## Ulcerative Colitis

### Macroscopic Pathology

- Diffuse colitis, usually most marked distally
- Red friable mucosa
- Broad-based ulcers
- Pseudopolyps
- Shortened colon
- Backwash ileitis



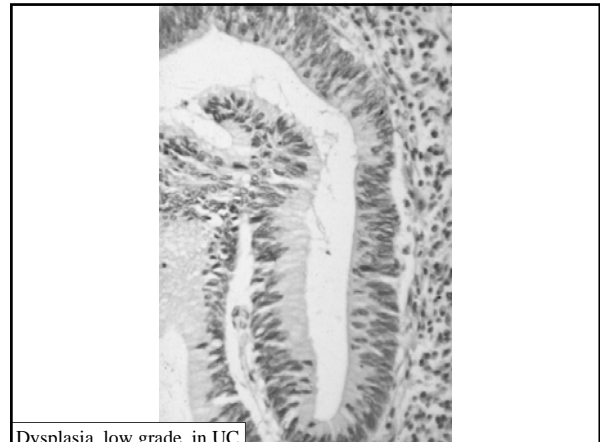
## Ulcerative Colitis

### Microscopic Pathology

- Diffuse mucosal inflammation (plasma cells, lymphocytes, eosinophils, neutrophils)
- Cryptitis
- Crypt abscesses
- Ulcers
- Crypt irregularity and atrophy
- Metaplasia: Paneth cell

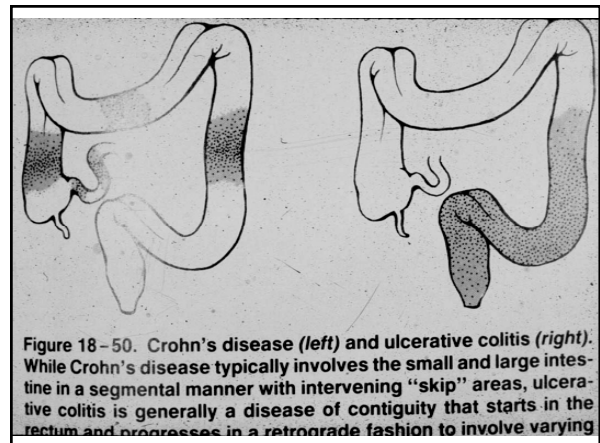
## Ulcerative Colitis Complications

- Toxic megacolon
- Dysplasia
- Carcinoma:
  - 2% after 20 years of left-sided colitis
  - 10% after 20 years of pancolitis
  - 15 - 20% after 30 years of pancolitis



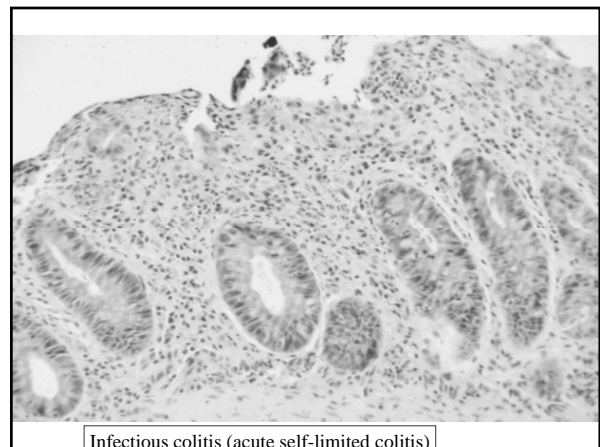
Provisional Schema of Patient Management  
Related to Classification of Dysplasia

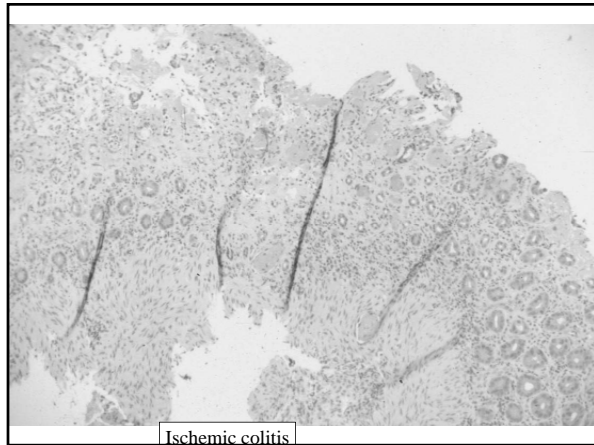
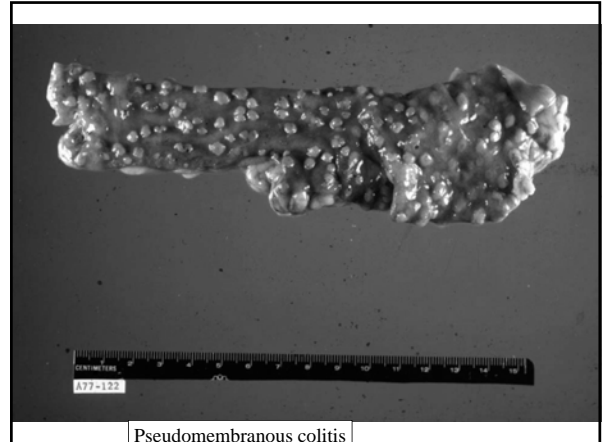
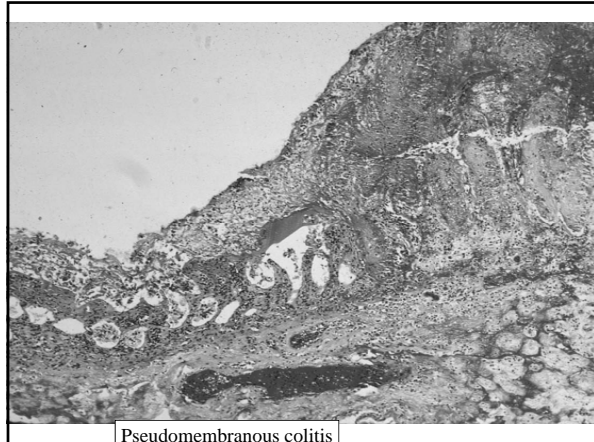
Biopsy Classification	Implications for Patient Management
Negative Normal mucosa Inactive (quiescent) colitis Active colitis Indefinite Probably negative	Continue regular follow-up
Unknown Probably positive	Institute short-interval follow-up
Positive Low-grade dysplasia	Institute short-interval follow-up <i>or</i> Consider colectomy, especially with gross lesion, after dysplasia is confirmed
High-grade dysplasia	Consider colectomy after dysplasia is confirmed



## IBD: Differential Diagnosis

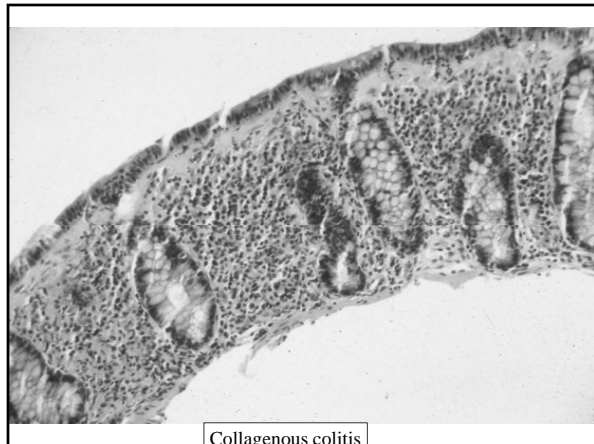
- Infectious colitis
- Ischemic colitis
- Microscopic colitis
- Irritable bowel syndrome (IBS)





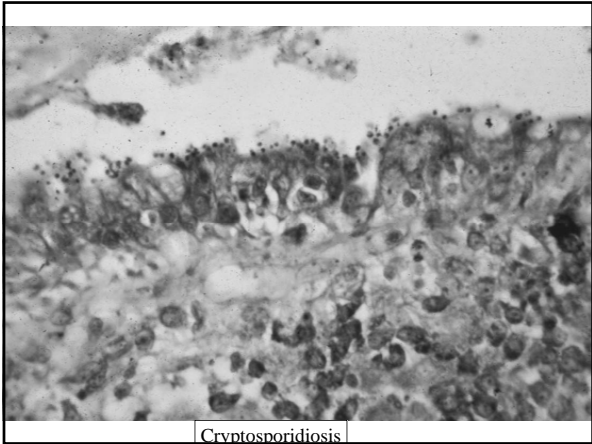
### Microscopic Colitis

- **Lymphocytic colitis:** lymphocytic infiltration of surface and crypt epithelium, increased inflammatory cells in the lamina propria
- **Collagenous colitis:** same as above plus increased subepithelial collagen
- **Clinical:** watery diarrhea, endoscopically normal colon, middle aged adults
- **Cause:** unknown, association with celiac disease, multiple drugs, family hx of intestinal diseases

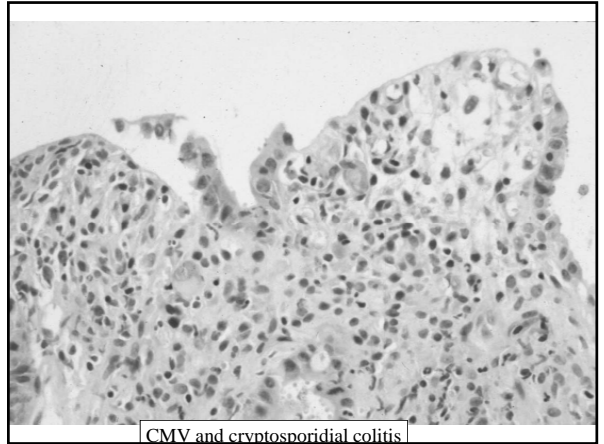


### Diarrhea in AIDS

- Cryptosporidiosis
- Microsporidiosis
- Isosporiasis
- Cyclosporiasis
- CMV colitis
- MAC enterocolitis
- HIV enteropathy



Cryptosporidiosis



CMV and cryptosporidial colitis