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:
  - 1st 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
Crohn’s Disease
Classification

- Terminal ileitis (40%)
- Ileocolitis (30%)
- Colitis (30%)
- Upper GI Crohn’s disease (2 - 20%)
Crohn’s Disease
Macroscopic Pathology

- Segmental
- Skip areas
- Stiff thickened bowel wall
- Linear ulcers
- Cobblestone mucosa
- Creeping fat
- Rectal sparing
Crohn’s Disease
Microscopic Pathology

• 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

- Stricture
- Fistulae
- Dysplasia
- Cancer (4 - 20x)
Ulcerative Colitis Classification

- Ulcerative proctitis / proctosigmoiditis (60 - 80%)
- Left-sided colitis (30 - 40%)
- Extensive colitis / pancolitis (10 - 20%)
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
<table>
<thead>
<tr>
<th>Biopsy Classification</th>
<th>Implications for Patient Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>Continue regular follow-up</td>
</tr>
<tr>
<td>Normal mucosa</td>
<td></td>
</tr>
<tr>
<td>Inactive (quiescent) colitis</td>
<td></td>
</tr>
<tr>
<td>Active colitis</td>
<td></td>
</tr>
<tr>
<td>Indefinite</td>
<td></td>
</tr>
<tr>
<td>Probably negative</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>Institute short-interval follow-up</td>
</tr>
<tr>
<td>Probably positive</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>Institute short-interval follow-up</td>
</tr>
<tr>
<td>Low-grade dysplasia</td>
<td>or Consider colectomy, especially with gross lesion, after dysplasia is confirmed</td>
</tr>
<tr>
<td>High-grade dysplasia</td>
<td>Consider colectomy after dysplasia is confirmed</td>
</tr>
</tbody>
</table>
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
Extra-intestinal Manifestations

1. Manifestations the severity of which correlate with severity of bowel disease
   a. Colitic arthritis: migratory and transient, usually not deforming; knees, hips, ankles, elbows, wrists
   b. Skin lesions: Pyoderma gangrenosum and erythema nodosum
   c. Ocular lesions: uveitis and episcleritis
   d. Calcium oxalate kidney stones:
Extra-intestinal Manifestations

2. Manifestations the severity of which doesn’t correlate with severity of bowel disease
   a. Sacroiliitis and ankylosing spondylitis: progressive and crippling; not ameliorated by colectomy or improvement of bowel disease
   b. Sclerosing cholangitis: leads to biliary cirrhosis; not improved by colectomy