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: 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

Aphthous ulcer in Crohn’s disease, endoscopic view

Oral aphthous ulcer
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, acute phase

Crypt abscess in UC

Flat ulcer with overhanging mucosa in UC

Chronic inactive phase of UC

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

Dysplasia, low grade, in UC

IBD: Differential Diagnosis

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

Ischemic colitis

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