Case 5

- 58 yo man hx of sarcoid had “bronchitis” x 10 yrs.
- Symptoms started 6 mos following Crohn’s diagnosis
- Sputum cultures grew aspergillus
- Surgical lung bx → ? Invasive aspergillosis
Case 5
Diagnosis

• Severe acute and chronic bronchiolitis with bronchiolectasis

• Organizing endogenous lipoid pneumonia

• Rare non-necrotizing granulomas

• c/w Crohn’s lung disease
<table>
<thead>
<tr>
<th>Extraintestinal manifestations of Inflammatory Bowel Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
</tr>
<tr>
<td>Uveitis</td>
</tr>
<tr>
<td>Dermatitis</td>
</tr>
<tr>
<td>Thyroiditis</td>
</tr>
</tbody>
</table>
Pulmonary Manifestations of IBD
Camus P et al, 1993

- N=33, 27 UC
- 84% develop symptoms after GI diagnosis (mean, 9 yr {1 wk-36 yr})
- Bowel disease activity variable active in only 10%; many post-colectomy
Pulmonary Manifestations of IBD
Camus P et al, 1993

- **Airway involvement:** 60%
  - Ch bronchitis/ectasis
  - Non nec gr. Bronchiolitis
  - Acute bronchiolitis
  - Bronchiolitis obliterans

- **Interstitial disease:** 35%

- **Parenchymal nodules:** 5%
CUC Bronchiectasis and Ch Br’itis
CUC bronchiolectasis and br’iolitis
Bronchiectasis

- diffuse
- airway > artery
- wall thickening
- lung normal
Br Bx in CUC w/ Ac and Ch B’itis
Necrobiotic nodule in CUC
Necrobiotic nodule in CUC
Crohn’s Pulmonary Involvement

- **Age at onset of pulmonary disease:** 3-84 years later
- **Onset of Crohn’s:** 20 years earlier to 8 years later
- **Prognosis – generally good**
  
  Most A+W after steroid therapy
### Crohn’s Pulmonary Pathology (n=24)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchiolitis with granulomas</td>
<td>46%</td>
</tr>
<tr>
<td>BOOP ± granulomas or GC</td>
<td>25%</td>
</tr>
<tr>
<td>NSIP ± giant cells</td>
<td>17%</td>
</tr>
<tr>
<td>Acute bronchiolitis with suppuration</td>
<td>8%</td>
</tr>
<tr>
<td>Eosinophilic pneumonia</td>
<td>4%</td>
</tr>
</tbody>
</table>

*Casey MB et al: Am Surg Pathol 27, 2003*
Br’iolitis w/ gran in Crohn’s
BOOP in Crohn’s
BOOP in Crohn’s
BOOP with gran in Crohn’s
Cellular NSIP in Crohn’s
Suppurative br’iolitis in Crohn’s
Eosinophilic Pn in Crohn’s
Pulmonary Manifestations of IBD
Differential Diagnosis

- Largely dependent on pattern
- Infection
- Drug reaction
  - Sulfasalazine - EP, NSIP, HSP, DIP, DAD
  - Infliximab - hemorrhage, TB, aspergillus
Bronchiectasis
Differential Diagnosis

• Localized
  Recurrent pneumonia
  Middle lobe syndrome
  Endobronchial Tx or foreign B
  MAC associated

• Diffuse
Ordinary B’ectasis w/ Br’itis- patchy infiltrate
CUC Ch B’itis - diffuse infiltrate
<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage</th>
<th>Associated Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idiopathic</td>
<td>53</td>
<td>Aspiration</td>
</tr>
<tr>
<td>Post-infectious</td>
<td>29</td>
<td>RA, CF</td>
</tr>
<tr>
<td>Immune def</td>
<td>8</td>
<td>Ciliary dysF</td>
</tr>
<tr>
<td>ABPA</td>
<td>7</td>
<td>UC; other</td>
</tr>
</tbody>
</table>

HRCT study, n = 150, 13-82 yrs
Pulmonary Manifestations of IBD Interstitial Disease

- Bronchiolitis obliterans organizing pneumonia (BOOP)
- Non-specific interstitial pneumonia
- Eosinophilic pneumonia
- Necrobiotic nodules
- Granulomas (Crohn’s)
Pulmonary Manifestations of IBD

- Airway-centered disease
  - most common
  - Bronch(iol)itis/
  - Bronchi(ol)ectasis
- May precede onset of IBD
- Has good prognosis
On to Case 6