Inflamatory Bowel Disease

Fernando Vega, M.D.

Epidemiology
- CD and UC together 1:400
- UC Prevalence 1:500
- UC Incidence 6-12K/annum
- CD Prevalence 1:1000
- CD Incidence 3-6K/annum
- Peak age of diagnosis 10-40

Symptoms
- Diarrhoea
- Tiredness
- Abdominal discomfort
- Rectal mucus
- Rectal bleeding

Tests for IBD
- Blood tests
- Endoscopic tests
- Radiological tests
- Microbiological?

CD or UC?
- SB, Colon and rarely elsewhere
- Patches of inflammation
- Linear ulcers
- Transmural disease
- Fistula
- 30% Granulomata
- Surgery not curative
- Smokers worse off
- Colon only
- Continuous inflammation
- Continuous ulcers
- Superficial disease
- No fistula
- No granulomata
- Cured by colectomy
- Smokers ‘better off’
Blood tests

- Anaemia
- Iron, B12 or folate deficiency
- ESR/CRP

Endoscopy

UC or CD?

Differential Diagnosis: Endoscopic Appearance

<table>
<thead>
<tr>
<th>UC</th>
<th>CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement of rectum</td>
<td>Rectum often spared</td>
</tr>
<tr>
<td>Diffuse erythema</td>
<td>Asymmetric inflammation</td>
</tr>
<tr>
<td>Continuous inflammation</td>
<td>Discontinuous inflammation</td>
</tr>
<tr>
<td>Mucosal granularity</td>
<td>Aphthous ulceration</td>
</tr>
<tr>
<td>Mucosal friability</td>
<td>Linear/serpiginous ulcers</td>
</tr>
<tr>
<td>Ulceration in inflamed mucosa</td>
<td>Discrete ulcers</td>
</tr>
<tr>
<td>Pseudopolyps</td>
<td>Cobblestoning</td>
</tr>
<tr>
<td></td>
<td>Fistulae</td>
</tr>
</tbody>
</table>

Fistulae


UC: Location and Extent

Percentages based on extent of disease at diagnosis.
Inflammatory Bowel Disease

Differential Diagnosis: Colonoscopic Biopsy

<table>
<thead>
<tr>
<th>UC</th>
<th>CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All samples inflamed</td>
<td>Normal samples</td>
</tr>
<tr>
<td>Distal biopsy specimens most severe</td>
<td>No pattern of inflammation</td>
</tr>
<tr>
<td>Mucosal disease</td>
<td>Transmural disease</td>
</tr>
<tr>
<td>Goblet cells reduced</td>
<td>Goblet cells may be normal</td>
</tr>
<tr>
<td>Crypt abscess</td>
<td>Mononuclear infiltrate</td>
</tr>
<tr>
<td>Capillary and venule engorgement</td>
<td>Lymphangiectasia</td>
</tr>
<tr>
<td>No granulation tissue/fibrosis</td>
<td>Granulation tissue/fibrosis</td>
</tr>
<tr>
<td>No granulomata</td>
<td>Granulomata</td>
</tr>
</tbody>
</table>


CD or UC?

Crohn’s disease

CD: Location and Extent

40% Ileocolitis
25% Colitis
30% Ileitis/Jejunoileitis

Extraintestinal Manifestations of UC and CD

- Oral Aphthous ulcers
- Urtis, scrotum or episcleritis
- Seronegative Arthritis, AS
- Erythema nodosum
- Pyoderma gangrenosum
- Thromboembolism
- Autoimmune haemolyis
- Clubbing PSC
- Osteoporosis

Upper GI
Inflammatory Bowel Disease

Uveitis in IBD

Scleritis in IBD

Sclerosing Cholangitis in IBD

Risk of Bowel Cancer is 1% yearly after 8 years.

- Pancolitis –
  colonoscopy at 8 years post diagnosis
  Every 3 years in 2nd decade
  Every 2 years in 3rd decade and then annually.

- Left sided colitis –
  Colonoscopy at 15 years post diagnosis
Inflammatory Bowel Disease

Differential Diagnosis of UC
- Infection
- Ischemia
- Diversion, pseudomembranous, or radiation colitis
- Physical agent
- Immunologic etiologies
- Systemic disease
- CD
- Irritable bowel syndrome

Differential Diagnosis of CD
- Lymphoma
- Infectious etiologies
- Appendicitis
- Diverticulitis
- Carcinoma
- UC
- Coeliac disease

Pseudomembranous colitis

Tuberculous Colitis

Differential Diagnosis: Infectious Colitides
- Bacterial
  - Campylobacter sp
  - Salmonella sp
  - Shigella sp
  - Clostridium difficile
  - Escherichia coli
  - Noncholera vibrios
  - Aeromonas sp
  - Yersinia enterocolitica
  - Tuberculosis
  - Histoplasmosis
- Parasitic
  - Entamoeba histolytica
  - Schistosomiasis
- Viral
  - Cytomegalovirus
  - Herpes simplex virus type II
  - Human immunodeficiency virus

IBD treatment
- Induction of remission
- Maintenance
- Acute exacerbations
- Nutritional aspects
- Medical-Surgical interface

Drug Treatment of UC

- Aminosalicylates (PO/PR)
  - Mesalazine, also known as 5-aminosalicylic acid, 5-ASA, Asacol, Pentasa and Mesalamine.
  - Sulphasalazine
  - Balsalazide, also known as Colazal.
  - Olsalazine, also known as Dipentum.

- Corticosteroids (PO/PR)
  - prednisolone
  - hydrocortisone

- Immunosuppressive drugs
  - 6-mercaptopurine, also known as 6-MP
  - Azathioprine, also known as Imuran (US) which metabolises to 6-MP.
  - Cyclosporin
  - Infliximab

Drug treatment of CD

- Aminosalicylates
  - Mesalazine, also known as 5-aminosalicylic acid, 5-ASA, Asacol, Pentasa and Mesalamine.
  - Sulphasalazine

- Antibiotics
  - Metronidazole

- Corticosteroids
  - prednisolone
  - hydrocortisone

- Immunosuppressive drugs
  - 6-mercaptopurine, also known as 6-MP
  - Azathioprine, also known as Imuran (US) which metabolises to 6-MP.
  - Methotrexate
  - Infliximab

An ill colitic

- Fever
- Tachycardia
- Bloody loose stools
- ESR
- Haemoglobin
- Criteria from 1955.

Since 1955

<table>
<thead>
<tr>
<th>Criteria of Trulove and Witts for Assessing Disease Activity in Ulcerative Colitis</th>
<th>Mild Activity</th>
<th>Severe Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily bowel movements (no.)</td>
<td>&lt; or = to 5</td>
<td>&gt; 5</td>
</tr>
<tr>
<td>Hematochezia</td>
<td>Small amounts</td>
<td>Large amounts</td>
</tr>
<tr>
<td>Temperature</td>
<td>&lt; 37.5°C</td>
<td>&gt;= 37.5°C</td>
</tr>
<tr>
<td>Pulse</td>
<td>&lt; 90/min</td>
<td>&gt;= 90/min</td>
</tr>
<tr>
<td>Erythrocyte sedimentation rate</td>
<td>&lt; 30 mm/h</td>
<td>&gt;= 30 mm/h</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>&gt; 10 g/dl</td>
<td>&lt;= 10 g/dl</td>
</tr>
</tbody>
</table>

* Patients with fewer than all of the above criteria for severe activity have moderately active disease.
Natural Course of UC

- Recurrence rates vary according to anatomic extent at diagnosis
- Study of 1,161 patients
  - 44% had ulcerative proctosigmoiditis
  - 36% had substantial colitis (left-sided and extensive)
  - 18% had pancolitis
  - In 1.5% the initial disease extent was unknown


Natural Course of UC: Proctosigmoiditis

<table>
<thead>
<tr>
<th>Course</th>
<th>Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progression of disease</td>
<td>39</td>
</tr>
<tr>
<td>Surgery</td>
<td>12</td>
</tr>
</tbody>
</table>


Natural Course of UC: Pancolitis

<table>
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<tr>
<th>Course</th>
<th>Patients (%)</th>
</tr>
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<tbody>
<tr>
<td>Regression</td>
<td>59</td>
</tr>
<tr>
<td>Partial</td>
<td>33</td>
</tr>
<tr>
<td>Complete</td>
<td>26</td>
</tr>
<tr>
<td>Surgery</td>
<td>39</td>
</tr>
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Inflammatory Bowel Disease

Intermittent Course of CD

CD: Cumulative Probability of Surgery

Postsurgical Recurrence of CD

Recurrence After Surgery in CD

*Kaplan–Meier analysis.