Emerging Evidence in a Common Condition
Intestinal Comorbidity

Diverticular Disease (DD)

Inflammatory Bowel Disease (IBD)

Irritable Bowel Syndrome (IBS)
Emerging Evidence in a Common Condition

Intestinal Comorbidity

Diverticular Disease (DD)

Inflammatory Bowel Disease (IBD)
Diverticular disease affects between 35% and 60% of the western population over the age of 60 years (1,2,3).

Inflammatory Bowel Disease has a second peak of incidence in elderly.

Epidemiology
Diverticular Disease and IBD

DD and IBD coexist more often than would be expected by chance, particularly in elderly women.

(1) Berman et al Dis Colon Rectum 1979
Intestinal Comorbidity

1. Diverticular Disease
2. Inflammatory Bowel Disease

1. Diverticular Colitis/
   Ulcerative Colitis
2. Crohn’s Disease
Diverticular Colitis

A particular form of IBD, that affects only the luminal mucosa of the sigmoid colon diverticulosis

Diverticular Colitis
Segmental Colitis

Divertikular Colitis – Endoscopy
IBD-like lesions

- Intramucosal erythema
- Disappearance of the vascular reticulum
- Edema
- Erosions and ulcers

Diverticular Colitis - Histopathology

Non-specific inflammation

Active inflammation with crypt abscesses similar to aktive ulcerative colitis

Makapugay, Dean 1996
Diverticular Colitis

Imperiali G et al, Am J Gastroent 2000; 95: 1014-16

Prospective Multicenter Study:
Evaluation of incidence, clinical presentation and outcome of diverticular Colitis

5457 Colonoscopies

14 patients (0.25%)
with endoscopic features of a diverticular colitis
Diverticular Colitis
Clinical feature (n=14)

- Hematochezia: 13 p./93%
- Diarrhea: 7 p./50%
- Abdominal Pain: 5 p./38%
- Weight Lost: 1

Imperiali G et al, Am J Gastroent 2000; 95: 1014-16
Diverticular Colitis
Findings (n=14)

- sparing of rectum: 14 p./100%
- normal blood chemistries (WBC, CRP): 13 p./93%
- neg. stool microbiology: 14 p./100%

Imperiali G et al, Am J Gastroent 2000; 95: 1014-16
Diverticular Colitis
Clinical Outcome (n=14)

Good clinical outcome

Good response to oral and topical 5-ASA

All 14 patients were in clinical and endoscopic remission after 6 wks

Imperiali G et al, Am J Gastroent 2000; 95: 1014-16
Is there a relationship between diverticular colitis and ulcerative colitis?

<table>
<thead>
<tr>
<th>Year</th>
<th>Study</th>
<th>Patient number</th>
<th>Number Diverticular Colitis</th>
<th>Number with subsequent classical UC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>Cawthorn et al.</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>1984</td>
<td>Sladen and Filipe</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>1992</td>
<td>Gore et al.</td>
<td>34</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>1992</td>
<td>Peppercorn</td>
<td>8</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>1993</td>
<td>Polit</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1995</td>
<td>Hart et al.</td>
<td>14</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>Van Rosendahl and Andersen</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>Makapugay and Dean</td>
<td>23</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>1998</td>
<td>Pereira</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2002</td>
<td>Gupta and Shepherd</td>
<td>7</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td><strong>98</strong></td>
<td><strong>64</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>
Is there a relationship between diverticular colitis and ulcerative colitis?

Few cases of diverticular colitis have subsequently developed classic distal ulcerative colitis.

May represent a specific form of IBD.

Imperiali G et al, Am J Gastroent 2000
Guslandi M Eur J Gastroenterol hepatol 2003
Intestinal Comorbiditiy

1. Diverticular Disease
   - Diverticular Colitis
   - 2. Crohn’s Disease
In elderly:

- Crohn’s D. is more common than ulcerative colitis
- Crohn’s D. affects preferential the distal colon
- Crohn’s disease may also induce diverticulitis

Diverticular disease and Crohn´s disease

Case report:  64 Y., female

3/2003:  Diverticulitis (conservative therapy)

12/2003  Fever, pain in left lower abdomen, CRP-increase, diarrhoea with mucous,

Physical examination: Resistance (10 cm) in left lower abdomen
Diverticular disease and Crohn’s disease
Case report: E.K., 64 Y., female,
Radiology

Thickening of the rectosigmoid wall, Diverticula
Diverticular disease and Crohn’s disease
Case report: E.K., 64 Y., female
Colonoscopy

Colonoscopy: fibrinous ulcerations in rectum and sigma, inflamed stenosis
Histology: acute inflammation,
DD: infectious colitis, ischaemic colitis, diverticulitis

Therapy: 5-ASA, Antibiotics,
no complete remission of symptoms, still elevated CRP

1/2004 Resection of the sigmoid:
Histology: Granuloma
Diverticulitis may cause all hallmarks of Crohn’s disease

- Transmural inflammation
- Fissuring/Fistula
- Granuloma

(1) Shepard J Clin Pathol 1991, (2) Ludeman
# Diverticulitis and pathological changes typical for Crohn’s disease

<table>
<thead>
<tr>
<th>Reference</th>
<th>Patients</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gelb &amp; Finkelstein (1974)</td>
<td>1</td>
<td>A, B, C</td>
</tr>
<tr>
<td>McCue et al. (1989)</td>
<td>4</td>
<td>A, B, C</td>
</tr>
<tr>
<td>Naori et al. (1992)</td>
<td>3</td>
<td>A, B, C</td>
</tr>
<tr>
<td>Gledhill &amp; Dixon (1998)</td>
<td>9</td>
<td>A, B, D</td>
</tr>
<tr>
<td>Burroughs et al. (1998)</td>
<td>8</td>
<td>A, B, C</td>
</tr>
<tr>
<td>Goldstein et al. (2000)</td>
<td>29</td>
<td>A, B, C,D, E</td>
</tr>
</tbody>
</table>

A: epitheloid granuloma  
B: mucosal inflammation  
C: aphthous ulcer        
D: transmural inflammation  
E: fissuring ulceration  

Ludemann et al. 2002
Diverticulitis and pathological changes typical for Crohn’s disease

Diverticular disease and histological CD: n=29, sigmoid-resection

(n=25)
Pat. without prior or concurrent Crohn’s Disease

Known Crohn’s disease (n=4)

Prior to resection

Diverticulitis and pathological changes typical for Crohn’s disease

Diverticular disease and histological CD: n=29, Resection

Follow-up: after 8 years

Known Crohn’s disease (n=4)

Pat. without prior or concurrent Crohn’s Disease

Postoperative CD (n=2)

n=23

Coexistent sigmoid Crohn’s disease-like changes and diverticulitis without prior or concurrent Crohn’s disease in other regions of the bowel

<table>
<thead>
<tr>
<th>Reference</th>
<th>No. of patients</th>
<th>No. (%) of patients free of postoperative Crohn’s disease</th>
<th>Follow-up period (mos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCue J et al. (1989)</td>
<td>4</td>
<td>4 (100%)</td>
<td>22*</td>
</tr>
<tr>
<td>Gledhill A, Dixon MF (1998)</td>
<td>9</td>
<td>9 (100%)</td>
<td>12-120</td>
</tr>
<tr>
<td>Burroughs SH et al. (1998)</td>
<td>8</td>
<td>8 (100%)</td>
<td>51*</td>
</tr>
<tr>
<td>Gelb AM, Finkelstein WE (1974)</td>
<td>1</td>
<td>1 (100%)</td>
<td>Not provided</td>
</tr>
<tr>
<td>Naouri A et al. (1992)</td>
<td>3</td>
<td>3 (100%)</td>
<td>36*</td>
</tr>
<tr>
<td><strong>Goldstein et al 2000</strong></td>
<td><strong>25</strong></td>
<td><strong>23 (92%)</strong></td>
<td><strong>91</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>48 (96%)</strong></td>
<td><strong>Not applicable</strong></td>
</tr>
</tbody>
</table>

* Mean follow-up period
Intestinal Comorbidity

**Diverticular Disease**

- Luminal mucosal inflammation may occur in DD
- Rare finding
- Main clinical feature is the self limiting rectal bleeding
- Rectum is spared
- Histology: similar to ulcerative colitis
- Good response to treatment (5-ASA)
Intestinal Comorbidity

**Diverticular Disease**

- Coexistence of DD and CD is commoner than the prevalence of either would suggest. But the association may be exaggerated.

- DD may be associated with pathological characteristics of CD caused by complicated DD itself.

- If there is no prior or concurrent CD in other parts of the GI-Tract the prognosis of Diverticulits is very well.
Treatment of Diverticular Disease without prior Crohn´s disease

Symptomatic?

-  + → Antibiotics

-  +  → Resection

+  - → Resection
Therapy of Diverticular disease and prior or concurrent Crohn’s disease

Symptomatic? Conglomerat; Stenosis

- + → Acutphase-Therapy/Antibiotics

+ - → Resection
Emerging Evidence in a Common Condition
Intestinal Comorbidity

Diverticular Disease (DD)

Inflammatory Bowel Disease (IBD)

Irritable Bowel Syndrome (IBD)