SYMPTOMS IN PATIENTS WITH DIVERTICULA

ALWAYS DIVERTICULAR DISEASE?

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SYMPTOMS IN PATIENTS WITH DIVERTICULA

• Diverticular disease of the colon encompasses diverticulosis, diverticulitis, and complications of diverticulitis.

• The majority of patients are followed by their primary care physicians or do not represent at all to the medical community (75 –80%).
The patient can primarily present with the following symptoms:

Non specific abdominal pain (lower abdominal pain, usually left sided):

- Pain is usually exacerbated with eating
- Diminishes with defecation or flatus
- Bloating and/or constipation
- Fullness or mild tenderness (rectal examination)
- Laboratory studies are normal
- Anorexia nausea and vomiting can arise
SYMPTOM DEVELOPMENT IN PATIENTS WITH COLONIC DIVERTICULA

Differential diagnosis

• Diverticulosis
  Irritable Bowel Syndrome, Post-inflammatory neural and muscle dysfunction

• Uncomplicated diverticulitis
  Post-inflammatory neural and muscle dysfunction

• Complicated diverticulitis
  Colorectal cancer, IBD, appendicitis, urinary tract pathology, pseudo-membranous or amoebic colitis, vascular pathology, abdominal; wall pathology, gynecological disorders, pelvic inflammatory disease
The ‘Rome II’ symptom criteria for IBS

Twelve weeks within the last 12 months of abdominal pain or discomfort which is:

• relieved with defecation, \( \text{and/or} \)
• associated with a change in the frequency of stool. \( \text{and/or} \)
• associated with a change in the consistency of stool
The ‘Rome II’ symptom criteria for IBS

The more symptoms present, the more certain the diagnosis is

- Abnormal stool frequency (>3/day or <3/week)
- Abnormal stool (lumpy/hard or loose/watery stool) >1/4 of defecations
- Abnormal stool passage (straining, urgency, or feeling of incomplete evacuation) >1/4 of defecation
- Passage of mucus >1/4 of defecations
- Bloating or feeling of abdominal distension >1/4 of days
TABLE 1. DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF THE PATIENTS AT BASELINE (ALL DIFFERENCES NONSIGNIFICANT)

<table>
<thead>
<tr>
<th></th>
<th>Rifaximin, 200 mg bid</th>
<th>Rifaximin, 400 mg bid</th>
<th>Mesalazine, 400 mg bid</th>
<th>Mesalazine, 800 mg bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>39</td>
<td>43</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>Males</td>
<td>25 (64.1%)</td>
<td>24 (55.8%)</td>
<td>26 (65%)</td>
<td>23 (47.9%)</td>
</tr>
<tr>
<td>Females</td>
<td>14 (35.9%)</td>
<td>29 (44.2%)</td>
<td>14 (35%)</td>
<td>25 (52.1%)</td>
</tr>
<tr>
<td>Age (mean yr ± SD)</td>
<td>66 ± 7.1</td>
<td>66 ± 10.9</td>
<td>67 ± 9.5</td>
<td>67 ± 9.2</td>
</tr>
<tr>
<td>Range</td>
<td>(53–83)</td>
<td>(44–82)</td>
<td>(39–83)</td>
<td>(44–84)</td>
</tr>
<tr>
<td>Global Symptomatic Score (mean ± SD)</td>
<td>8.38 ± 4.06</td>
<td>9.81 ± 4.99</td>
<td>11 ± 4.96</td>
<td>8.83 ± 4</td>
</tr>
</tbody>
</table>

Occurrence rate of symptoms (%)

- A. Upper abdominal pain/discomfort 41.1 58.2 47.5 45.9
- B. Lower abdominal pain/discomfort 56.5 62.7 67.5 68.7
- C. Bloating 94.8 93 90 87.2
- D. Tenesmus 56.4 62.7 75 50
- E. Diarrhea 43.5 58.1 65 50
- F. Abdominal tenderness 84.6 65.1 77.5 72.9
- G. Fever (last 3 months) 25.6 20.9 27.5 29.1
- H. General illness 43.5 44.1 59 56.2
- I. Nausea 30.7 37.2 42.5 39.5
- L. Emesis 17.9 23.2 37.5 16.6
- M. Dysuria 15.3 18.6 20 31.2
Symptoms in non-IBS patients with uncomplicated symptomatic diverticular disease

• Abdominal pain
• Abnormal bowel habits (constipation or, less frequent, alternating constipation and diarrhea)
• No relief of abdominal pain with defecation
Do colonic diverticula cause symptoms?

- It is suggested that diverticula themselves are somewhat responsible for the symptoms.
- There is, however, no or a bad correlation between the extent of the diverticula and the symptoms.
- The presence of diverticula does not change the natural history of IBS.
- Colonic diverticula and IBS symptoms, occur coincidentally.
- Even a common etiology is not precluded.
Alterations in colonic motility to pain in symptomatic diverticulosis

• Changes in electrical control activity and intraluminal pressures with respect to healthy control subjects was not detectable in IBS and diverticulosis

  Katschinski M. Scand J Gastroenterol. 1990;25:761

• Increased duration of rhythmic, low-frequency, contractile activity, particularly in the segments bearing diverticula. These rhythms are significantly associated with pain.

Alterations in colonic motility to pain in symptomatic diverticulosis

- Symptomatic but not asymptomatic diverticular disease is associated with heightened perception of distension, not only the diverticula bearing sigmoid, but also in the unaffected rectum.
- With respect to visceral sensitivity there is no relationship with meal intake.
- This hypersensitivity is not due to altered compliance of the rectal wall

Clemens CHM. Gut 2004;53:717
Normal Colon

- Fiber Deficient Diet
  - Increase Colon Wall Pressure
    - Diverticula Formation
  - Change in Microflora
    - Decrease in Intestinal Immune response

- Microscopic Colitis
  - Associated with Diverticula
    - Grade 1 & 2 Diverticulitis
      - Antibiotics, Mesalazine, Pro(Pre)biotics
      - Decrease in Diverticulitis

Different gut flora
Intestinal bacterial overgrowth

Mucosal low-grade inflammation

Abnormal activation of Intrinsic and extrinsic primary afferent neurons

Neural and muscle dysfunction

Abdominal symptoms
The pathology of diverticulosis coli

Mucosal changes in the diverticula

- Increased lymphoid infiltrate
- Development of lymphoglandular complexes
- Mucin depletion
- Mild cryptitis
- Architectural distortion
- Paneth cell metaplasia
- Ulceration

West AB. J.Clin Gastroenterol, 2004
Overlap of Various Forms of Inflammatory Bowel Disease and Diverticular Disease

- Crohn’s disease and diverticular disease share clinical and radiological features
- Crohn’s disease can be a secondary reaction to diverticulosis
- Crohn’s disease in association with diverticulosis predisposes to the development of diverticulitis
- There exists an apparently distinct form of segmental colitis (diverticular colitis) associated with sigmoid diverticula

Peppercorn M. J Clin Gastroenterol. 2004
The pathology of diverticular disease

Mucosal changes

The mucosa of the remainder of the colon is usually normal, but in 1-1.5% of cases it is indistinguishable from UC or Crohn’s disease: segmental colitis associated with diverticular disease.

This is also called “diverticular colitis”

- inflammation of the mucosal folds: oedematous, hyperaemic, granular, and ulcerated, whereas the diverticular orifices are spared.

Ludeman, Pathology 2002;34;568
Conclusions

There exists an overlap with respect to symptoms between:

• Between IBD and diverticular disease
• Between IBS and diverticular disease
• Small bowel and large bowel bacterial overgrowth and diverticular disease
SYMPTOMS IN PATIENTS WITH DIVERTICULA - ALWAYS DIVERTICULAR DISEASE?

• Depends on the cause of the symptoms
• No good study available indicating the incidence of prevalence of diverticula in IBS or the presence of IBS in patients that have diverticula
• Once the affected diverticular area or the affected area in sigmoid colitis is resected there appears to be a cure, but not always. This need further investigation.
SYMPTOMS IN PATIENTS WITH DIVERTICULA - ALWAYS DIVERTICULAR DISEASE?

• Symptoms of IBS tend to decrease with age.
• Diverticular disease increases with age.
• It should be investigated whether this is due to the fact that diverticular disease is more diagnosed in older people.
• No studies about psychiatric involvement in symptomatic diverticular disease.