Diverticular Disease
How to make the diagnosis in primary care

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Primary Care

- First port of call for patients with problems
- 10% of a GP’s workload in GI, 50% lower GI
- Patients present with undifferentiated symptoms
- The GP has to work out which system is affected and if there is a clinical problem
- (Not the same for gastroenterologists: GPs are not mini-gastroenterologists)
Primary Care

- Limited or no access to immediate diagnostic tools such as CT scans or even USS
- Blood tests/urine/ faecal tests available but not always with an immediate result
- Many decisions are made on prior knowledge about the patient and on the probability of a diagnosis
- Recognizing the acute nature of a problem is crucial
## Classification

### Staging of diverticular diseases according to Hansen & Stock (1999)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Diverticulosis</td>
</tr>
<tr>
<td>I</td>
<td>Acute uncomplicated diverticulitis</td>
</tr>
<tr>
<td>II</td>
<td>Acute complicated diverticulitis</td>
</tr>
<tr>
<td>IIa</td>
<td>Peridiverticulitis, pericolitis (phlegmons)</td>
</tr>
<tr>
<td>IIb</td>
<td>Advanced diverticulitis (abscess, fistula, sealed perforation)</td>
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<tr>
<td>IIc</td>
<td>Free perforation</td>
</tr>
<tr>
<td>III</td>
<td>Chronic recurrent diverticulitis (in the interval)</td>
</tr>
</tbody>
</table>

Hansen & Stock (1999)
Disease course

Course of diverticulosis and diverticulitis

Diverticular carrier

75 – 90% do not suffer from diverticulitis

75% without complications:
Microperforation of intestinal wall
near the diverticulum with
subsequent peridiverticulitis

80 – 90% suitable for successful
successful conservative treatment

Around 1/3 suffer relapse
(90% within 5 years),
1/3 of which experience complications

10 – 20% suitable

25% with complications:
- Perforation
- Abscess
- Fistulas
- Obstruction
- Hemorrhage

10 – 20%

90 – 95%

Treatment failure under conservative treatment

Surgical therapy

Up to 10% develop diverticulitis relapse

90 – 95%
Primary Care

The commonest lower GI problems often have no clear-cut diagnosis

- Diarrhoea, often due to **short term infections**
- **Episodic diarrhoea**, up to 23% in the community
- **Constipation**, often with increasing age or medications
- **Functional** gastrointestinal problems, 10%+
- **Abdominal pain**: different duration and intensity but with no clear diagnostic label
- **Overall: lower GI disorders in the community probably 30%+**

Hungin APS, Paxman L, Koenig K et al/ Aliment Pharmacol Ther 2016
Rome III. Rome Foundation for FGIDs
Diverticular Disease: making the diagnosis in primary care

**Background**

- 50% of people have diverticula by age 50 years
- 70% by the age of 70 years
- 75% of people with diverticula have no symptoms
- In Asian patients the disease occurs more commonly in younger patients and in the R colon
Making the diagnosis of DD

- No definitive diagnostic symptoms, signs or first line blood tests
- Watch for overlap with FGIDs such as IBS
- Watch for urological for gynecological problems
- There may be no prior history of diverticulae
Avoiding dangerous pitfalls... differential diagnoses

- Gynaecological disorders: ectopic pregnancy, ovarian lesions
- Acute enteritis
- Inflammatory Bowel Disease
- Neoplasia
- Obstruction syndromes
- Appendicitis, Meckel’s diverticulitis
- [IBS-like symptoms (symptomatic DD): Post Diverticulitis IBS*]

Presenting picture

- Intermittent or constant abdominal pain, frequently (93%+) in the left lower quadrant “left sided appendicitis”*
- Fever (57%+)*
- Nausea, vomiting, diarrhoea, dysuria
- Discrete rectal bleeding (not a consistent symptom)
- Pain may occur in the genital area (via sacral plexus)
- The less localised the pain the greater the need to consider differential diagnoses

Pitfalls

- Urological symptoms, such as dysuria or frequency: related to diverticular inflammation pressing on bladder
- Diverticular haemorrhage, usually abrupt, in 1% of patients with diverticulitis
- Perforation, peritonitis, abscess and fistula formation

Investigations
Limited in the acute setting in primary care

- Leucocytosis (positive in 69-83%)*
- Urine examination: careful interpretation because of positive findings from DD
- Faecal Calprotectin? Raised in DD patients**
  Mean FCP in DD patients 115 mg/kg vs controls and IBS 49 mg/kg
- Ultrasound, sometimes available in primary care
- (CT, MRI)

Ultrasound image of diverticula

Ultrasound sensitivity in diverticula imaging: 85 – 98%

Hollerweger et al. (2002)
Schwerk et al. (1992)

A meta-analysis showed the ultrasound to be the most validated imaging technique

Liljegren et al. (2007)
Diagnostics: Imaging techniques

Double contrast imaging of the colon:
Multiple diverticula

Source: Prof. Dr. J. Treichel, Ludwigsburg (Germany)
Diagnostics: Imaging techniques

Magnetic resonance imaging (MRI) and virtual colonoscopy: Imaging of distinct diverticulosis

Abdominal MRI

3D reconstruction of the colon

Source: Prof. Dr. S. Feuerbach, Regensburg (Germany)
Diagnostics: Imaging techniques

Diverticulitis shown in CT

Extensive diverticulitis in the sigmoid colon and descending colon with surrounding infiltration of fatty tissue and circular wall thickening

Source: Prof. Dr. S. Feuerbach, Regensburg (Germany)
Positive Predictive Value of a clinical diagnosis

PPV 65%

Toorenvliet BR, Bakker RF, Breslau PJ et al. Colorectal Dis 2010
The decision to transfer the patient to hospital (or not)

- How certain is the diagnosis?
- How sick is the patient?
- How acute are the signs?
- Is home support possible?
- Can the treatment be given by mouth?
- Is there a risk of complications?
Diverticular Disease – How to make the diagnosis in primary care

Conclusions

- Patients present with undifferentiated symptoms
- Keep a high index of suspicion for DD in patients with abdominal pain, especially aged 50+ yrs
- Lower abdominal pain and fever are common symptoms
- Watch for complications such as bleeding, fistula and abscess
- The PPV of a clinical diagnosis is not acceptable: confirmatory tests should be done and a second opinion sought if any doubt