Diverticular Disease

Symptoms, diagnosis and treatment

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What is a diverticulum?

A wayside house of ill repute
Acquired

- Unknown
- Westernised society
- 95% involve sigmoid colon
- High intraluminal pressure
- Abnormal colonic motility
- Muscular defect
- Collagen deficiency
Who gets it?

Increases with age

Age 40 years 5%
Age 60 years 30%
Age 80 years 65%

Getting younger

USA admissions < 45yr rose 2.5 x from 1998 to 2005
Who gets it?

- Overall male:female 1:1
- < 50 years male disease
- 84-96% under < 50yr are obese
- Low fibre diet: risk 0.58
Right sided DD

- Common in Asia
- More likely to bleed
Symptoms

Diverticular Disease / Diverticulosis
Usually asymptomatic

? Chronic discomfort
Excessive labelling
Clinical presentation

- Present with complications (≈ 30%)
  - Diverticulitis 15-25%
  - Bleeding 5-15%
  - Perforation
  - Abscess
  - Fistula
  - Stricture
Complications more frequent among:

- Obese
- Smokers
- Users of NSAIDS
- Users of paracetamol
- Low fibre diet
Diverticulitis

- Acute illness
- LIF pain
- Fever
- Ileus/SBO/LBO
- Simple 75%
- Complicated 25%
Overall risks in diverticulitis

- Mortality 2%
- 15-30% need operation
Perforation (localised)

• An extension of diverticulitis
• A common pick up
Diverticulitis in immunocompromised patients

- Steroids
- DM
- Renal failure
- Malignancy
- Cirrhosis
- Immunosuppressive drugs
- Intercurrent infection

- Increased risk of perforation (43%)
- Increased risk of surgery (58%)
- Increased mortality (39%)
Abscess

Localised progress of phlegm creates an abscess

Fever (swinging)

High WCC; tender mass

Diagnosis CT scan
Fistulae

2% diverticulitis episodes
Colovesical: 65%
Colovaginal: 25%
Colocutaneous
Coloentero
Multiple tracks in 8%
Fistula symptoms

• Colovesical UTI, pneumaturia
• Colovaginal faeces PV
• Colocutaneous faecal fistula
• Coloentero diarrhoea/malabsorbtion
**Stricture**

- Acute inflammatory obstruction
- Healing by fibrosis

- Pain
- Obstruction
- May be few or no symptoms
Free perforation

Risk of perforation 14%
Mortality 37-45%

Sudden severe pain
Collapse
Septic shock
## Hinchey Classification

<table>
<thead>
<tr>
<th>Stage</th>
<th>Mortality after Resection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I Pericolic abscess</td>
<td>0-3%</td>
</tr>
<tr>
<td>Stage II Pelvic Abscess</td>
<td>5%</td>
</tr>
<tr>
<td>IIa amenable to PAD</td>
<td></td>
</tr>
<tr>
<td>IIb complex +/- fistula</td>
<td></td>
</tr>
<tr>
<td>Stage III Purulent peritonitis</td>
<td>15%</td>
</tr>
<tr>
<td>Stage IV Faeculent peritonitis</td>
<td>35%</td>
</tr>
</tbody>
</table>
Bleeding

- Lifetime risk for patients with DD: 15%
- No inflammation
- 50% of patients on NSAIDs
Bleeding

• Acute lower GI haemorrhage
• Usually self limiting
• Diagnostic uncertainty
• Can be dramatic
Diagnosis

Elective
Acute
Follow up
Flexible Sigmoidoscopy
Colonoscopy
Investigation of diverticulitis

Clinical diagnosis wrong 33%

CT is better than USS:

- Sensitivity 69-98%
- Specificity 75-100%
- Bowel wall thickening (70%)
- Mesenteric stranding inflamed fat (98%)
- Associated abscess (35%)
- Diverticular (84%)
- Peritonitis (16%)
- Fistula (14%)
- Obstruction (12%)
- Intra mural sinus tracks (9%)
Contrast extravasation from diverticular bleeding
Follow up investigation

Double contrast BE
CT pneumocolon
Delayed investigation (6/52)
Rule out other pathology
Mechanical complications
Treatment
Management of Diverticulosis

• If asymptomatic nil required
• Reassurance and explanation
• If “symptoms” high fibre diet
• Lifestyle advice
Treatment of Diverticulitis

- **Outpatient Rx**
  - Mild pain / well
  - Antibiotics 7-14 days
  - Cover E coli and Bacteriodes
  - Low residue diet
  - If no improvement after 48-72 hours reassess

- **Inpatient Rx 1-2% only**
  - Bowel rest
  - IV antibiotics and fluids
  - Expect improvement after 48 hours
  - 15-30% require urgent surgery with 18% mortality
Prognosis after acute diverticulitis

Medically treated: 67% no further attacks

22-33% will go on to have 2nd attack

1/3 young men have poor outcome after successful conservative Rx?
Treatment of abscess

Small pericolic abscess: antibiotics and supportive Rx (90% success)

Simple well defined collection: Percutaneous abscess drainage (76% - 100% success) plus antibiotics

Consider surgical drainage:
not radiologically accessible
multilocular collection
abscesses associated with enteric fistulae
abscesses contain solid or semisolid material
Stricture treatment

Need to exclude malignancy
If malignancy not excluded→Resection
Many improve with time
   Balloon Dilation
? Stent
Fistula treatment

None
Antibiotics
Defunction
Resection
Bleeding

- 30-50% of massive GI bleeds
- 33% require transfusion
- Bleeding stops in 70-80%
- Right colon source of bleeding in 49-90%
- Re-bleed risk 30%
- Re-bleed after re-bleed risk is 50%
- Angiography
- Resection stops bleeding in 90%
Colonoscopy for bleeding

Source not found 30-40%
Excludes malignancy

???'Therapeutic injection
Surgical Intervention

- When to operate?
- When to resect?
- When to anastomose?
When to operate?

Free perforation/generalized peritonitis

Obstruction

Fistulae

Clinical deterioration or failure to improve

Abscess not amenable to percutaneous drainage
When to resect?

- “ALWAYS”
  - Shorter hospital stay
  - Less morbidity
  - Less mortality (26% ↓ 7%)
  - Survival advantage

Except: “if you have operated too early”
or if you are specifically draining and abscess
When to anastomose?

When it can be done safely

Do Hartmann’s if: unstable
  has peritonitis
  malnourished
  immunocompromised
Reversal of Hartmann’s

- 70-80% reversed
- Deprivation
- Mortality 0.6-2%
- Leak rate 4-7%
- Anastomotic stricture rate 6-7%
- Stricture rate > with stapled anastomosis
- ? Timing 3/12