

DIVERTICULITIS

DIVERTICULAR DISEASE IS A COMMON GI DISORDER WITH A SPECTRUM OF CONDITIONS RANGING FROM ASYMPTOMATIC DIVERTICULOSIS TO LIFE-THREATENING DIVERTICULITIS

DIVERTICULA ARE SMALL HERNIATIONS THROUGH THE WALL OF THE COLON

DIVERTICULITIS DEVELOPS WHEN DIVERTICULA BECOME INFLAMED OR INFECTED

AETIOLOGY AND PATHOGENESIS:

- Development of diverticulosis is thought to be due to increased intraluminal pressures in the colon and weakening of the bowel wall
 - Western dietary factors → low fibre, high fat and high refined carbohydrates promote decreased GI transit times
 - More likely to develop in sedentary and obese patients
 - Left sided colon is the most common site of diverticulosis (95-98% cases, sigmoid being most common)
 - Diverticula occur at sites where the vasculature (vasa recta) penetrate the circular muscle layer of the colon
- DIVERTICULITIS is thought to be due to erosion of the diverticular wall by inspissated faecal material, resulting in inflammation and microperforation

CLINICAL PRESENTATION:

- CLASSICALLY → diverticulitis presents with LLQ pain, fever and leukocytosis
- Patients with redundant sigmoid or those with right sided disease complain of RLQ or suprapubic pain
- Pain may be intermittent or constant and is OFTEN ASSOCIATED WITH A CHANGE IN BOWEL HABIT (either diarrhoea in 30% or constipation in 50%)
- Half of patients will describe a similar prior episode
- Other symptoms → N+V (60%), anorexia (40%), urinary symptoms (10%)
- Mild abdominal tenderness to peritonism are range of findings on exam

DIAGNOSIS:

- Diverticulitis can be diagnosed by history and exam alone
- In stable patients with a history of confirmed diverticulitis and a similar acute presentation, no further diagnostic evaluation is necessary unless the patient fails to improve with conservative medical treatment
 - If the above do not hold true → DIAGNOSTIC IMAGING to rule out other pathology and evaluate for complications
- Differential diagnosis is extensive:

Table 85-1 Differential Diagnosis of Diverticulitis

Acute appendicitis
Colitis—ischemic or infectious
Inflammatory bowel disease (Crohn disease, ulcerative colitis)
Colon cancer
Irritable bowel syndrome
Pseudomembranous colitis
Epiploic appendagitis
Gallbladder disease
Incarcerated hernia
Mesenteric infarction
Complicated ulcer disease
Peritonitis
Obstruction
Ovarian torsion
Ectopic pregnancy
Ovarian cyst or mass
Pelvic inflammatory disease
Cystitis
Kidney stone
Renal pathology
Pancreatic disease

- Lab studies are rarely diagnostic but aid in exclusion of other pathology
- CT is the preferred imaging modality because it evaluates the severity of disease and the presence of complications
 - With oral and IV contrast → sensitivity of 97% and specificity of 100%
 - Findings include standing (98%), colonic diverticula (84%), bowel wall thickening >4mm (70%), soft tissue masses (phlegmon) or pericolic fluid collections (abscesses in 35%)
 - In 10% cases, diverticulitis cannot be differentiated from carcinoma, so every patient with diverticulitis should be referred for outpatient colonoscopy 6 weeks after resolution of an acute episode

TREATMENT:

- Divided into uncomplicated and complicated cases
- Uncomplicated diverticulitis is isolated to inflammation of the diverticula
- Complicated diverticulitis includes → PHLEGMON, ABSCESS, STRICTURE, OBSTRUCTION, FISTULA OR PERFORATION
- The majority of uncomplicated diverticulitis improves with bowel rest (liquid diet) and antibiotics → 70-100% success rate

For mild infection, use:

1 amoxicillin+clavulanate 875+125 mg orally, 12-hourly for 5 days

OR THE COMBINATION OF

1 cephalexin 500 mg orally, 6-hourly for 5 days

PLUS

metronidazole 400 mg orally, 12-hourly for 5 days.

For patients with immediate penicillin hypersensitivity (see [Table 2.2](#)), use:

metronidazole 400 mg orally, 12-hourly for 5 days

PLUS

trimethoprim+sulfamethoxazole 160+800 mg orally, 12-hourly for 5 days.

- Complicated disease generally requires admission with bowel rest and IV antibiotics and specific treatment directed at complications

Severe or complicated diverticulitis

Patients with diverticulitis who should be admitted to hospital are those with significant systemic features (high fever, marked rebound tenderness) or with mild disease that fails to respond to outpatient management.

Patients should commence bowel rest and intravenous fluids and intravenous antibiotics. Consider computerised tomography of the abdomen if there is no improvement within 24 hours.

The recommended antibiotic regimen is:

amoxy/ampicillin 1 g IV, 6-hourly



PLUS

gentamicin 4 to 6 mg/kg (see [Table 2.24](#)) (severe sepsis: 7 mg/kg) IV, for 1 dose, then determine dosing interval for a maximum of either 1 or 2 further doses based on renal function (see [Table 2.25](#))



PLUS

metronidazole 500 mg IV, 12-hourly.



If intravenous therapy is required beyond 72 hours, cease this gentamicin-containing regimen and use piperacillin+tazobactam or ticarcillin+clavulanate as below.

If gentamicin is contraindicated (see [Box 2.7](#)), as a single preparation, use:

1 piperacillin+tazobactam 4+0.5 g IV, 8-hourly



OR

1 ticarcillin+clavulanate 3+0.1 g IV, 6-hourly.



For patients hypersensitive to penicillin (excluding immediate hypersensitivity, see [Table 2.2](#)), use:

metronidazole 500 mg IV, 12-hourly



PLUS EITHER

1 ceftriaxone 1 g IV, daily



OR

2 cefotaxime 1 g IV, 8-hourly.



- Complicated diverticulitis is often referred to by the HINCHLEY CLASSIFICATION SCHEME:
 - Stage 1 → small, confined pericolic or mesenteric abscesses
 - Stage 2 → larger abscesses, confined to the pelvis
 - Stage 3 → perforated diverticulitis in which a ruptured abscess causes purulent diverticulitis
 - Stage 4 → free perforation with faecal contamination of the peritoneal cavity
- Abscesses and phlegmon are the most common complications
 - Phlegmon is inflammation and infection of tissues without abscess formation
 - Advances in treatment modalities have allowed percutaneous drainage of abscesses, allowed patients to avoid invasive surgery
 - Abscesses <4cm and phlegmon are admitted for IV antibiotics and do not require percutaneous drainage
- Those with bowel obstruction, either from stricture or a mural abscess should have an NG tube and be made NBM
- Fistulas require surgical repair, but often after acute episode has resolved
- PERFORATION → high mortality rate, need resuscitation, IV antibiotics and emergency laparotomy
 - For Hinchley stage 3 → mortality 13%, Hinchley stage 4 → 43%

DISPOSITION AND FOLLOW UP:

- DISCHARGE → appropriate for uncomplicated diverticulitis (those with stable vital signs, nontoxic, adequate analgesia possible at home, mild exam findings) → clear diet to be advanced as tolerated, oral antibiotics and followed up in 2-3 days to return to ED for recurring pain, high fevers, N+V or abdominal tenderness
- Admission for patients with intractable N+V, significant comorbid illness, poor home support, high fevers/leukocytosis, elderly/immunocompromised

SPECIAL POPULATIONS:

- YOUNG PATIENTS:
 - Patients < 40 comprise only 2% of patients with diverticulitis but their numbers are growing with obesity epidemic
 - Their disease is also thought to be more virulent and is reflected in higher rates of recurrence, complicated presentation and surgical intervention
- MECKEL DIVERTICULITIS:
 - Meckel diverticulum present in 2% of the population, 2ft from the ileocaecal valve and are symptomatic in 2% of patients
 - Cramping abdominal pain, N+V and bleeding
 - Treatment is surgical excision
- EPIPLOIC APPENDAGITIS:
 - Epiploic appendages are small fat-filled sacs near the lining of the colon that can become inflamed
 - Usually an incidental finding on CT and follows a benign self-limiting course

- Pain management and follow up is all that is required
- DIVERTICULAR BLEEDING:
 - Hallmark of diverticular bleeding is painless rectal bleeding that is generally self-limiting
 - Accounts for 23% of LGI bleeding and occur when the dome of a herniated diverticulum erodes into the medial surface of the vasa recta
 - NOT ASSOCIATED WITH DIVERTICULITIS