

Uncomplicated Diverticular Disease—75%

Abdominal pain
Fever
Leukocytosis
Anorexia/obstipation

Complicated Diverticular Disease—25%

Abscess 16%
Perforation 10%
Stricture 5%
Fistula 2%

leukocytosis. Rarely, a patient may present with an air-fluid level in the left lower quadrant on plain abdominal film. This is a giant diverticulum of the sigmoid colon and is managed with resection to avoid impending perforation.

The diagnosis of diverticulitis is best made on CT with the following findings: sigmoid diverticula, thickened colonic wall >4 mm, and inflammation within the pericolic fat ± the collection of contrast material or fluid. In 16% of patients, an abdominal abscess may be present. Symptoms of irritable bowel syndrome (Chap. 352) may mimic those of diverticulitis. Therefore, suspected diverticulitis that does not meet CT criteria or is not associated with a leukocytosis or fever is not diverticular disease. Other conditions that can mimic diverticular disease include an ovarian cyst, endometriosis, acute appendicitis, and pelvic inflammatory disease.

Although the benefit of colonoscopy in the evaluation of patients with diverticular disease has been called into question, its use is still considered important in the exclusion of colorectal cancer. The parallel epidemiology of colorectal cancer and diverticular disease provides enough concern for an endoscopic evaluation before operative management. Therefore, a colonoscopy should be performed ~6 weeks after an attack of diverticular disease.

Complicated diverticular disease is defined as diverticular disease associated with an abscess or perforation and less commonly with a fistula (Table 353-1). Perforated diverticular disease is staged using the Hinchey classification system (Fig. 353-2). This staging system was developed to predict outcomes following the surgical management of complicated diverticular disease. In complicated diverticular disease with fistula formation, common locations include cutaneous, vaginal, or vesicle fistulas. These conditions present with either passage of stool through the skin or vagina or the presence of air in the urinary stream (pneumaturia). Colovaginal fistulas are more common in women who have undergone a hysterectomy.

TREATMENT DIVERTICULAR DISEASE**MEDICAL MANAGEMENT**

Asymptomatic diverticular disease discovered on imaging studies or at the time of colonoscopy is best managed by diet alterations. Patients should be instructed to eat a fiber-enriched diet that includes 30 g of fiber each day. Supplementary fiber products such as Metamucil, Fibercon, or Citrucel are useful. The incidence of complicated diverticular disease appears to be increased in patients who smoke. Therefore, patients should be encouraged to refrain from smoking. The historical recommendation to avoid eating nuts is not based on more than anecdotal data.

Symptomatic uncomplicated diverticular disease with confirmation of inflammation and infection within the colon should be treated initially with antibiotics and bowel rest. Nearly 75% of patients hospitalized for acute diverticulitis will respond to nonoperative treatment with a suitable antimicrobial regimen. The current recommended antimicrobial coverage is trimethoprim/sulfamethoxazole or ciprofloxacin and metronidazole targeting aerobic gram-negative rods and anaerobic bacteria. Unfortunately, these agents do not cover enterococci, and the addition of ampicillin

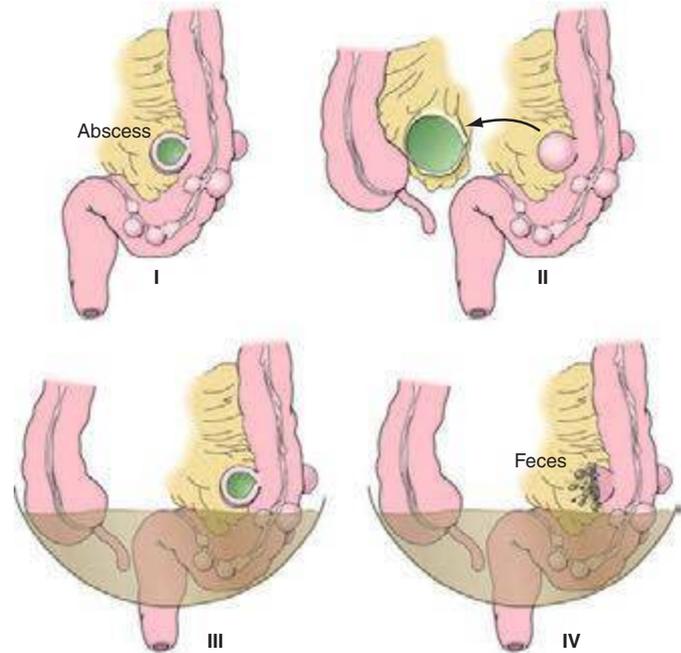


FIGURE 353-2 Hinchey classification of diverticulitis. Stage I: Perforated diverticulitis with a confined paracolic abscess. Stage II: Perforated diverticulitis that has closed spontaneously with distant abscess formation. Stage III: Noncommunicating perforated diverticulitis with fecal peritonitis (the diverticular neck is closed off, and therefore, contrast will not freely expel on radiographic images). Stage IV: Perforation and free communication with the peritoneum, resulting in fecal peritonitis.

to this regimen for nonresponders is recommended. Alternatively, single-agent therapy with a third-generation penicillin such as IV piperacillin or oral penicillin/clavulanic acid may be effective. The usual course of antibiotics is 7–10 days, although this length of time is being investigated. Patients should remain on a limited diet until their pain resolves.

Once the acute attack has resolved, the mainstay medical management of diverticular disease to prevent symptoms has evolved. Newer directions are targeted at colonic inflammation and dysbiosis. Diverticular disease is now considered a functional bowel disorder associated with low-grade inflammation. Therefore, the use of anti-inflammatory medications such as mesalazine has become popular. Patients treated with mesalazine have a decreased recurrence of symptomatic disease. Randomized trials of anti-inflammatory medications are ongoing.

Treatment strategies targeting dysbiosis in diverticular disease are also beneficial. Use of the polymerase chain reaction (PCR) on stool specimens from consumers of a high-fiber diet has shown different bacterial content than stool of consumers of a low-fiber, high-fat diet. Probiotics are being increasingly used by gastroenterologists for multiple bowel disorders and have been shown to prevent recurrence of diverticulitis. Specifically probiotics containing *Lactobacillus acidophilus* and *Bifidobacterium* strains have been shown to be beneficial. Furthermore, rifaximin (a poorly absorbed broad-spectrum antibiotic), when compared to fiber alone, is associated with 30% less frequent recurrent symptoms from uncomplicated diverticular disease.

SURGICAL MANAGEMENT

Preoperative risk factors influencing postoperative mortality rates include higher American Society of Anesthesiologists (ASA) physical status class (Table 353-2) and preexisting organ failure. In patients who are low risk (ASA P1 and P2), surgical therapy can be offered to those who do not rapidly improve on medical therapy. For uncomplicated diverticular disease, medical therapy can be continued beyond two attacks without an increased risk of perforation requiring a