

Emergency Presentations of Diverticulitis



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KEYWORDS

• Diverticulitis • Emergency • Surgery • Peritonitis • Lavage

KEY POINTS

- Acute diverticulitis varies in disease severity ranging from mild uncomplicated diverticulitis, which may be treated in the outpatient setting, to perforated complicated diverticulitis, requiring emergent surgical intervention.
- The pathophysiology of acute diverticulitis is still being elucidated but is now believed to have a significant contribution from inflammatory processes rather than being a strictly infectious process. Because of this, the routine use of antibiotics in the treatment of acute diverticulitis has been challenged.
- As nonoperative management of acute diverticulitis has improved, the need for routine colonic resection has been questioned. Multiple options for surgical management of acute diverticulitis exist and at this juncture the selection of what operation is best should be made on a case-by-case basis.
- Further research is needed to be able to recommend strategies for preventing the recurrence of acute diverticulitis. Dietary restrictions have not been proved beneficial.

INTRODUCTION

Acute diverticulitis is a common condition that has been increasing in incidence in the United States.¹⁻⁴ It is associated with increasing age, but other factors are believed to contribute to the pathophysiology of diverticular disease as well. As the population of the United States ages, diverticular disease is expected to require significant hospital resources. In 1988, diverticulitis was responsible for 2.2 million hospitalizations in the United States with health care costs of approximately \$2.5 billion, and these figures have continued to increase.⁴⁻⁶ There are still many questions to be answered regarding the optimal management of acute diverticulitis because recent studies have challenged traditional practices, such as the routine use of antibiotics, surgical technique, and dietary restrictions, for prevention of recurrence. Diverticulitis can be

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seen in the right colon and small bowel (such as Meckel or duodenal diverticulitis) but left-sided colonic diverticulitis is the most common form of diverticulitis in the United States and is the focus of this article.^{5,7}

EPIDEMIOLOGY

Diverticulitis is the most common nontraumatic cause of colonic perforation and the most common indication for elective colonic resection.^{8,9} Although diverticular disease is common—approximately 60% of persons older than age 60 have diverticular disease. Acute diverticulitis develops in 4% to 25% of individuals with diverticular disease, and of these 15% to 40% have recurrent episodes of diverticulitis.^{1,9–12} Multiple studies evaluating the Nationwide Inpatient Sample data in the United States have shown an increase in the admission rate for acute diverticulitis after adjustment for age.^{1–4} Studies in England have shown an analogous increase in the incidence of acute diverticulitis.^{1,13} Multiple explanations for the increasing incidence of diverticulitis have been postulated, including dietary factors, obesity, and bacterial colonization but the pathophysiology of this process still has aspects that are not well understood.^{1,10} Up to 95% of patients who present with a diagnosis of acute uncomplicated diverticulitis are able to be managed in an outpatient setting.^{1,14–16} After an initial episode of diverticulitis, the risk of recurrence is 15% to 40%, with the risk of developing a third or fourth episode similar to the risk of the first recurrence in some studies or increased in others.^{9,11,17,18} A majority of the cases of complicated diverticulitis—characterized by perforation, abscess, fistula, or stricture—are in patients without a previous history of diverticulitis.^{11,19}

PATHOPHYSIOLOGY OF DIVERTICULOSIS AND DIVERTICULITIS

The pathophysiology of diverticular disease is an area of continued research. It seems that the development of diverticulitis is triggered by interaction between individual predispositions and environmental factors. Factors suspected to be involved in the etiology of acute diverticulitis include obstruction of diverticula, colonic stasis, composition of the gut flora, and localized ischemia, among others.¹¹ The processes associated with the development of diverticulitis can be divided into approximately 3 categories: processes relating to weakness in the bowel wall, those relating to increased intraluminal pressure, and other processes (**Box 1**). As understanding of the disease process leading to diverticulitis has continued to develop, there have

Box 1

Factors believed to contribute to the development of colonic diverticulae

Weakness of the Bowel Wall

- Noncircumferential muscular layers
- Insertion of the vasa recta
- Localized ischemia
- Connective tissue disorders
- Ehlers-Danlos syndrome

High Intraluminal Pressure

- Increased collagen crosslinking with age → less distensible, more contractile bowel → segmentation
- Obstruction of diverticulae
- Colonic stasis, chronic constipation
- Low fiber intake

Other Associated Factors

- Seasonal variation (summer months)
- Smoking
- Age
- Obesity
- Alcohol use
- Immunocompromised state
- Composition of intestinal flora

Data from Refs. ^{1,5,11,20–23}

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