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CLINICAL AND THERAPEUTIC ASPECTS OF DIVERTICULITIS: A NARRATIVE REVIEW

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ABSTRACT

Diverticulitis is a gastrointestinal condition in which diverticula (small sacs or pouches) in the colon become inflamed or infected. This article is a review of the current understanding of diverticulitis and covers its causes, symptoms, diagnosis, and treatment. Epidemiological studies have shown that diverticulitis mainly affects older adults and the incidence increases with age. The Western diet, which is high in fat and low in fiber, has been implicated in the development of diverticulitis. The most common presenting symptom is abdominal pain, often localized to the left lower quadrant, and other symptoms include fever, nausea, vomiting, and changes in bowel habits. The diagnosis of diverticulitis is based on a combination of clinical, radiologic, and laboratory findings. The preferred imaging modality is computed tomography (CT) with intravenous contrast. Mild cases can often be managed with conservative measures, such as bowel rest, antibiotics, and pain management. More severe cases may require hospitalization, intravenous antibiotics, and, in some cases, surgical intervention. Surgery may be required in cases of complicated diverticulitis, such as perforation, abscess formation, or fistula formation, and in patients with recurrent diverticulitis. In conclusion, further research is needed to better understand the epidemiology of diverticulitis and its risk factors, especially in developing countries where the incidence of diverticulitis is believed to be lower.

KEYWORDS : Diverticulitis, Colon, Western diet, CT scan, Surgery

INTRODUCTION

Diverticulitis is a common gastrointestinal condition that occurs when diverticula in the colon become inflamed or infected.

Diverticula are small sacs or pouches that form on the wall of the colon, and while they are usually asymptomatic, they can become problematic when they become infected or inflamed. Diverticulitis is more commonly diagnosed in older individuals and can lead to serious complications such as perforation, abscess formation, and sepsis(1).

This article aims to provide a narrative review of the current understanding of diverticulitis, including its causes, symptoms, diagnosis, and treatment.

In this article, we will explore the pathophysiology of diverticulitis, as well as the epidemiology and risk factors associated with the condition. We will also discuss the clinical presentation of diverticulitis, including the signs and symptoms that patients may experience.

METHODS

The search strategy may involve searching electronic databases such as PubMed, Embase, and the Cochrane Library for relevant studies, as well as hand-searching reference lists of identified articles and relevant conference proceedings. The search terms used may include variations of the keywords "diverticulitis," "inflammatory bowel disease," "colon," and "treatment."

The criteria used to select studies for inclusion in the review may involve factors such as study design (e.g., randomized controlled trials, observational studies), patient population (e.g., adults with diverticulitis), interventions or exposures of interest (e.g., antibiotics, fiber supplementation), and outcomes of interest (e.g., resolution of symptoms, complications).

The process for evaluating the studies selected for inclusion in the review may involve assessing the quality of the studies using established criteria, such as the Cochrane Risk of Bias tool or the Newcastle-Ottawa Scale for observational studies. Any discrepancies or disagreements among the review authors may be resolved through discussion and consensus (**Figure 1**).

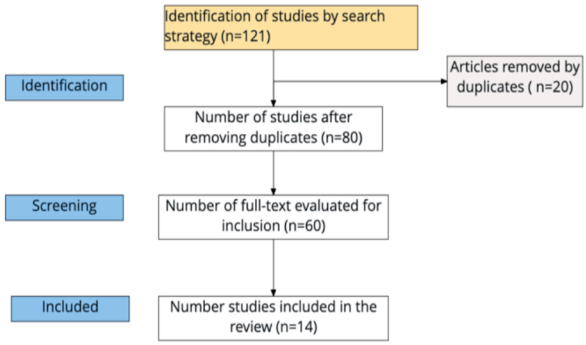

Figure 1. PRISMA

Epidemiology

The incidence of diverticulitis has been increasing in recent years, with a significant proportion of the population being affected. Epidemiological studies have shown that diverticulitis affects mainly older adults, with the incidence increasing with age. In addition, there is a higher prevalence of diverticulitis in developed countries, possibly due to changes in diet and lifestyle (2).

A study conducted in the United States showed that the incidence of diverticulitis increased from 75 cases per 100,000 persons in 1998 to 126 cases per 100,000 persons in 2005, with the highest incidence reported in individuals over the age of 65. Another study conducted in the Netherlands found that the incidence of diverticulitis increased from 31 cases per 100,000 persons in 1991 to 84 cases per 100,000 persons in 2009, with the highest incidence reported in individuals aged 75 and older (2,3).

The exact cause of the increasing incidence of diverticulitis is still unknown, but it is thought to be related to changes in diet and lifestyle. The Western diet, which is high in fat and low in fiber, has been implicated in the development of diverticulitis. Obesity, physical inactivity, and smoking have also been identified as risk factors for diverticulitis. Despite the increasing incidence of diverticulitis, there is still limited data on its global burden. Further research is needed to better understand the epidemiology of diverticulitis and its risk factors, especially in developing countries where the incidence of diverticulitis is believed to be lower (3).

Diagnosis and evaluation

The diagnosis of diverticulitis is based on a combination of clinical, radiologic, and laboratory findings. The most common presenting symptom is abdominal pain, which is often localized to the left lower quadrant.

Other common symptoms include fever, nausea, vomiting, and changes in bowel habits. Laboratory tests are not specific for diverticulitis but may be useful in ruling out other potential causes of abdominal pain. A complete blood count (CBC) with differential may reveal leukocytosis, which is often seen in cases of acute inflammation. Other laboratory tests, such as liver function tests and amylase/lipase levels, may be useful in evaluating for other potential causes of abdominal pain (3).

Imaging studies are essential for the diagnosis and evaluation of diverticulitis. The preferred imaging modality is computed tomography (CT) with intravenous contrast. CT scans can identify the presence of diverticula, as well as any signs of inflammation or infection, such as thickening of the bowel wall, fat stranding, and the presence of abscesses. CT scans can also identify any potential complications, such as perforation or fistula formation(3,4).

In some cases, ultrasound may be used as a first-line imaging modality, particularly in pregnant women or those with renal insufficiency who cannot receive contrast. Ultrasound can identify the presence of diverticula, as well as any signs of inflammation, such as increased thickness of the bowel wall and the presence of fluid collections. Colonoscopy is not recommended during the acute phase of diverticulitis due to the risk of perforation. However, colonoscopy may be useful in the evaluation of chronic diverticulitis or in cases where malignancy is suspected (4).

Treatment

The management of diverticulitis depends on the severity of the disease, as well as the presence of any complications. Mild cases of diverticulitis can often be managed with conservative measures, such as bowel rest, antibiotics, and pain management. More severe cases may require hospitalization, intravenous antibiotics, and in some cases, surgical intervention (5).

Conservative Management

Bowel rest is an important component of the conservative management of diverticulitis. Patients are typically advised to avoid solid foods and to consume only clear liquids for a period of several days. This helps to reduce inflammation and allows the bowel to rest and heal (6,7).

Antibiotics are often prescribed in cases of diverticulitis to treat the underlying infection. The choice of antibiotics may vary depending on the severity of the disease and local resistance patterns. In cases of uncomplicated diverticulitis, a course of oral antibiotics may be sufficient, while more severe cases may require intravenous antibiotics and hospitalization (7,8).

Pain management is also an important aspect of the conservative management of diverticulitis. Nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided, as they can exacerbate inflammation and increase the risk of complications. Instead, acetaminophen and/or opioids may be used to manage pain (8).

Surgical Management

Surgical intervention may be required in cases of complicated diverticulitis, such as perforation, abscess formation, or fistula formation. Surgery may also be considered in cases of recurrent diverticulitis or in patients with a history of complications (8).

The most common surgical intervention for diverticulitis is a colectomy, which involves the removal of a portion of the colon. The type of colectomy performed may vary depending on the location and extent of the disease. In some cases, a temporary colostomy may be necessary, while in others, the colon may be reconnected in a single surgery. Laparoscopic surgery has become increasingly common in the management of diverticulitis and has been shown to have several advantages over traditional open surgery, including decreased postoperative pain, shorter hospital stays, and faster recovery times(9).

Elective Surgery

Elective surgery for diverticulitis is considered in patients with recurrent episodes of acute diverticulitis, chronic symptoms, or complications such as strictures or fistulas. The goal of elective surgery is to remove the affected portion of the colon and prevent further episodes of diverticulitis (9).

There are two main approaches to elective surgery for diverticulitis: laparoscopic and open surgery. Laparoscopic surgery is less invasive and associated with a shorter hospital stay and faster recovery time, but it may not be appropriate for all patients. Open surgery, on the other hand, provides better exposure of the surgical field and may be preferred in patients with severe or complicated disease. Several factors should be considered when deciding whether to pursue elective surgery for diverticulitis, including the patient's age, comorbidities, and overall health status. The decision should be made on a case-by-case basis, with the patient's preferences and goals of care considered (9).

Prognosis

The prognosis of diverticulitis depends on several factors, including the severity of the disease, the presence of any complications, and the patient's overall health. Mild cases of diverticulitis can often be managed with conservative measures and have a good prognosis. However, more severe cases, especially those with complications, can be associated with significant morbidity and mortality (10).

In general, the overall mortality rate for diverticulitis is low, ranging from 0.4% to 1.6%. However, the mortality rate increases significantly in cases of complicated diverticulitis, such as perforation, abscess formation, or fistula formation, and can be as high as 10%. Several factors have been identified as predictors of a poor prognosis in diverticulitis, including age over 70 years, comorbidities such as diabetes and heart disease, the presence of complications, and the need for surgery (11).

Areas of Uncertainty

Despite advances in the diagnosis and treatment of diverticulitis, there remain several areas of uncertainty that warrant further investigation. Some of the key areas of uncertainty in the management of diverticulitis include the following:

Optimal management of uncomplicated diverticulitis:

While the majority of cases of diverticulitis are uncomplicated, there is debate about the best approach to managing these patients. Some studies have suggested that antibiotics may not be necessary in all cases of uncomplicated diverticulitis, and that a watchful waiting approach may be appropriate in select patients. However, further research is needed to identify the optimal management strategy for uncomplicated diverticulitis (12).

Role of probiotics:

Probiotics have been proposed as a potential treatment for diverticulitis, with some studies suggesting that they may reduce the risk of recurrent episodes. However, the evidence

supporting the use of probiotics in the management of diverticulitis is limited, and further research is needed to determine their efficacy and safety (13).

Long-term outcomes:

While the short-term outcomes of diverticulitis are well-established, there is limited data on the long-term outcomes of the disease. In particular, it is unclear what proportion of patients with diverticulitis will go on to develop complications such as strictures or fistulas, and what the long-term risk of colon cancer may be (14).

REFERENCES

1. Strate LL, Modi R, Cohen E, Spiegel BM. Diverticular disease as a chronic illness: evolving epidemiologic and clinical insights. Am J Gastroenterol. 2012;107(10):1486-1493.
2. Bharucha AE. Diverticular disease: epidemiology and management. Can J Gastroenterol. 2011;25 Suppl B:7B-10B.
3. Peery AF, Barrett PR, Park D, Rogers AJ, Galanko JA, Martin CF, et al. A high-fiber diet does not protect against asymptomatic diverticulosis. Gastroenterology. 2012;142(2):266-72.e1.
4. Stollman NH, Raskin JB. Diagnosis and management of diverticular disease of the colon in adults. American College of Gastroenterology Practice Parameters Committee. Am J Gastroenterol. 1999;94(11):3110-3121.
5. Strate LL, Modi R, Cohen E, Spiegel BM. Diverticular disease: a clinical review. JAMA. 2015;313(3):287-97.
6. Peery AF, Sandler RS, Ahnen DJ, Galanko JA, Holm AN, Shaukat A, et al. Constipation and a low-fiber diet are not associated with diverticulosis. Clin Gastroenterol Hepatol. 2013;11(12):1622-7.
7. Bharucha AE, Parthasarathy G, Ditah I, Fletcher JG, Ewelukwa O, Pendlimari R, et al. Temporal trends in the incidence and natural history of diverticulitis: a population-based study. Am J Gastroenterol. 2015;110(11):1589-96.
8. Jacobs DO. Diverticulitis. N Engl J Med. 2007;357(20):2057-2066.
9. Strate LL, Erichsen R, Baron JA, Mortensen J, Pedersen JK, Riis AH, et al. A nationwide population-based study of incidence and risk factors for pyogenic liver abscess in Denmark. J Hepatol. 2012;56(2):485-91.
10. Zuckerman MJ, Trellis DR, Sherman TM, Clouse RE. Diverticular disease: treatment and management. Gastroenterol Clin North Am. 2008; 37(3): 56586,xi.
11. Bharucha AE. Epidemiology and natural history of diverticular disease. J Clin Gastroenterol. 2006;40 Suppl 3:S112-7.
12. Stollman N, Magowan S, Shanahan F, Quigley EM. Diverticular disease of the colon. Lancet. 2014;383(9936):2152-62.
13. Guzzo JL, Hyman NH. Diverticulitis. Clin Colon Rectal Surg. 2004; 17(4):195204.
14. Chabok A, Pahlman L, Hjern F, Haapaniemi S, Smedh K. Randomized clinical trial of antibiotics in acute uncomplicated diverticulitis. Br J Surg. 2012;99(4):532-9.