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Doença diverticular do cólon: manifestações clínicas e conduta cirúrgica

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REVISÃO DE LITERATURA

RESUMO

A doença diverticular do cólon é uma condição que afeta o intestino grosso e pode causar inflamação, infecção ou perfuração. O tratamento depende da gravidade dos sintomas e das complicações. Em geral, o tratamento inclui antibióticos, analgésicos, repouso intestinal e dieta com pouco resíduo. Em casos mais graves, pode ser necessária uma cirurgia para remover a parte afetada do intestino. A cirurgia pode ser feita com ressecção intestinal primária ou com colostomia. Objetivo: avaliar as manifestações clínicas e a conduta cirúrgica da doença diverticular do cólon, bem como os fatores de risco, prognóstico e prevenção associados. Metodologia: seguiu o checklist PRISMA, as bases de dados consultadas foram PubMed, Scielo, Web of Science, utilizando os descritores: diverticular disease, colon, clinical manifestations, surgical management and systematic review. Foram incluídos artigos publicados nos últimos 10 anos, em português ou inglês, que abordassem a doença diverticular do cólon em adultos. Foram excluídos artigos que não fossem revisões sistemáticas ou meta-análises, que tratassem de outras doenças do intestino grosso ou que não apresentassem dados sobre as manifestações clínicas ou a conduta cirúrgica da doença diverticular do cólon. Resultados: Foram selecionados 15 estudos. A manifestação clínica mais comum da doença diverticular do cólon é a dor abdominal no quadrante inferior esquerdo, que pode ser acompanhada de febre, leucocitose, alteração do hábito intestinal e sinais de irritação peritoneal. A cirurgia é indicada para casos refratários ao tratamento conservador, casos complicados com perfuração, abscesso, fístula ou obstrução intestinal, ou casos recorrentes com sintomas incapacitantes. A cirurgia pode ser realizada por via aberta ou laparoscópica, sendo esta última associada a menor morbidade e menor tempo de internação. A técnica cirúrgica mais utilizada é a ressecção intestinal primária com anastomose primária, que consiste na retirada da parte afetada do intestino e na união das extremidades remanescentes. Em casos de peritonite difusa ou instabilidade hemodinâmica, pode-se optar pela colostomia com ressecção intestinal diferida. Conclusão: a doença diverticular do cólon é uma condição frequente e potencialmente grave, que requer um diagnóstico preciso e um tratamento adequado. As manifestações clínicas variam desde sintomas leves até

complicações graves que podem levar à morte. A conduta cirúrgica deve ser individualizada de acordo com o quadro clínico e as condições do paciente. A prevenção da doença diverticular do cólon envolve a adoção de hábitos de vida saudáveis, como uma dieta rica em fibras e a prática de atividade física regular.

Palavras-chave: doença diverticular, cólon, manifestações clínicas, tratamento cirúrgico e revisão sistemática.

Diverticular disease of the colon: clinical manifestations and surgical management

ABSTRACT

Diverticular disease of the colon is a condition that affects the large intestine and can cause inflammation, infection or perforation. Treatment depends on the severity of symptoms and complications. In general, treatment includes antibiotics, painkillers, bowel rest and a low-residue diet. In more serious cases, surgery may be necessary to remove the affected part of the intestine. Surgery can be performed with primary intestinal resection or colostomy. Objective: to evaluate the clinical manifestations and surgical management of colonic diverticular disease, as well as the associated risk, prognosis and prevention factors. Methodology: followed the PRISMA checklist, the databases consulted were PubMed, Scielo, Web of Science, using the descriptors: diverticular disease, colon, clinical manifestations, surgical management and systematic review. Articles published in the last 10 years, in Portuguese or English, that addressed colon diverticular disease in adults were included. Articles that were not systematic reviews or meta-analyses, that dealt with other diseases of the large intestine or that did not present data on the clinical manifestations or surgical management of diverticular disease of the colon were excluded. Results: 15 studies were selected. The most common clinical manifestation of diverticular disease of the colon is abdominal pain in the left lower quadrant, which may be accompanied by fever, leukocytosis, changes in bowel habits and signs of peritoneal irritation. Surgery is indicated for cases refractory to conservative treatment, cases complicated by perforation, abscess, fistula or intestinal obstruction, or recurrent cases with disabling symptoms. Surgery can be performed open or laparoscopically, the latter being associated with lower morbidity and shorter hospital stays. The most commonly used surgical technique is primary intestinal resection with primary anastomosis, which consists of removing the affected part of the intestine and joining the remaining ends. In cases of diffuse peritonitis or hemodynamic instability, colostomy with deferred intestinal resection may be chosen. Conclusion: Diverticular disease of the colon is a common and potentially serious condition that requires an accurate diagnosis and appropriate treatment. Clinical manifestations range from mild symptoms to serious complications that can lead to death. Surgical management must be individualized according to the patient's clinical picture and conditions. Preventing diverticular disease of the colon involves adopting healthy lifestyle habits, such as a diet rich in fiber and practicing regular physical activity.

Keywords: diverticular disease, colon, clinical manifestations, surgical management and systematic review

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INTRODUÇÃO

Diverticular disease of the colon is a condition that affects the large intestine and can cause inflammation, infection, or perforation. It is more prevalent in Western and industrialized countries, being influenced by genetic, environmental and dietary factors. Low fiber intake and high consumption of red meat are considered risk factors for developing the disease. Diverticular disease of the colon can be asymptomatic or present different clinical manifestations, depending on the severity and complications. Treatment depends on the patient's clinical picture and condition. In general, treatment includes antibiotics, painkillers, bowel rest and a low-residue diet. In more serious cases, surgery may be necessary to remove the affected part of the intestine. Surgery can be performed with primary intestinal resection or colostomy.

Diverticula are small pouches that form in the wall of the colon, usually in the sigmoid region. They can occur anywhere in the large intestine, but are more common on the left side. Diverticula are considered an acquired anatomical change, which results from weakness of the muscular layer of the colon and increased intraluminal pressure. It is believed that low fiber intake and high consumption of red meat contribute to the formation of diverticula, as they reduce the volume and consistency of feces, making intestinal transit difficult and increasing pressure in the colon.

The most common clinical manifestation of diverticular disease of the colon is abdominal pain in the left lower quadrant, which may be accompanied by fever, leukocytosis, changes in bowel habits and signs of peritoneal irritation. These symptoms are due to inflammation of the diverticula, which can progress to infection or perforation. This condition is called acute diverticulitis and can be classified into degrees according to severity and complications. Other less frequent manifestations of colonic diverticular disease are diverticular bleeding, the formation of abscesses, fistulas or strictures. Diverticular bleeding is characterized by painless hemorrhage that can be massive or intermittent. Abscess formation occurs when there is an accumulation of pus in inflamed diverticula or in their surroundings. Fistulas are abnormal communications between the colon and other organs, such as the bladder, uterus or vagina. Strictures are narrowings of the colon lumen that can cause intestinal obstruction.

The diagnosis of diverticular disease of the colon is made through imaging tests, which make it possible to visualize the presence, location and number of diverticula in the large intestine, as well as possible complications, such as inflammation, infection, perforation, bleeding, abscess, fistula or stenosis. The most commonly used imaging test is computed tomography, which has high sensitivity and specificity for diagnosing colonic diverticular disease and its complications. Ultrasonography and magnetic resonance imaging are other imaging options that can be used in cases of contraindication or unavailability of computed tomography. Colonoscopy is a complementary exam that can confirm the presence of diverticula and exclude other colon pathologies, such as polyps, tumors or colitis. However, colonoscopy should be avoided in the acute phase of diverticulitis as it may increase the risk of perforation.

Treatment for diverticular disease of the colon depends on the severity and complications of the disease. Most cases can be treated conservatively, with oral or intravenous antibiotics, analgesics, bowel rest and a low-residue diet. These measures aim to reduce inflammation and infection of the diverticula and alleviate symptoms. Surgery is indicated for cases refractory to conservative treatment, cases complicated by perforation, abscess, fistula or intestinal obstruction, or recurrent cases with disabling symptoms. The surgery aims to remove the affected part of the intestine and restore continuity of intestinal transit.

Surgery can be performed open or laparoscopically, the latter being associated with lower morbidity and shorter hospital stays. The most commonly used surgical technique is primary intestinal resection with primary anastomosis, which consists of removing the affected part of the intestine and joining the remaining ends. In cases of diffuse peritonitis or hemodynamic instability, colostomy with deferred intestinal resection may be chosen. A colostomy is an artificial opening of the intestine in the abdominal wall, which allows feces to exit into an external bag. Deferred intestinal resection is performed in a second surgical procedure, after the clinical and inflammatory condition has improved.

The objective of this systematic literature review is to evaluate the clinical manifestations and surgical management of colonic diverticular disease, as well as the associated risk, prognosis and prevention factors. This review aims to contribute to up-

to-date knowledge and evidence-based practice about this condition that affects the large intestine and can cause serious complications.

METODOLOGIA

The methodology used in this systematic literature review followed the PRISMA checklist. The PRISMA checklist covers four phases: identification, selection, eligibility and inclusion of studies. Each phase involves specific criteria to ensure the quality and transparency of the review.

The identification phase consisted of searching for studies in the PubMed, Scielo and Web of Science databases, using the following descriptors: diverticular disease, colon, clinical manifestations, surgical management and systematic review. The descriptors were combined with the Boolean operators AND and OR, according to the syntax of each database. The search was carried out in January 2023 and limited to articles published in the last 10 years, in Portuguese or English.

The selection phase consisted of removing duplicate studies between the databases, using specific software for this purpose. Then, the titles and abstracts of the studies were analyzed by two independent reviewers, who applied the pre-defined eligibility criteria.

The inclusion criteria were:

- Be a systematic review or a meta-analysis.
- Address diverticular disease of the colon in adults.
- Present data on the clinical manifestations or surgical management of colonic diverticular disease.
- Have a clear and reproducible method for searching, selecting and evaluating included studies.
- Have an assessment of the quality of the included studies.

The exclusion criteria were:

- Not be a systematic review or meta-analysis.
- Treat diseases of the large intestine other than diverticular disease of the colon.

- Do not present data on the clinical manifestations or surgical management of colonic diverticular disease.
- Having an unclear or inconsistent method for searching, selecting and evaluating included studies.
- Not having an assessment of the quality of the included studies.

RESULTADOS

15 studies were selected. Diverticular disease of the colon is an acquired anatomical change resulting from weakness of the muscular layer of the colon and increased intraluminal pressure. These factors lead to the formation of small pockets in the wall of the large intestine, called diverticula. Diverticula can occur anywhere in the large intestine, but they are most common in the sigmoid region, which is the end of the colon. The presence of diverticula in the large intestine is called diverticulosis. Diverticulosis can be asymptomatic or cause mild symptoms, such as abdominal discomfort, bloating or changes in bowel habits.

Furthermore, diverticular disease of the colon manifests itself when the diverticula become inflamed or infected, causing severe abdominal pain, fever, leukocytosis and signs of peritoneal irritation. This condition is called acute diverticulitis and can be classified into degrees according to severity and complications. Acute diverticulitis can progress to perforation of the diverticula, which can cause diffuse or localized peritonitis. Diffuse peritonitis is a generalized inflammation of the peritoneum, which is the membrane that lines the abdominal cavity. Localized peritonitis is inflammation restricted to one region of the abdomen, which can form an abscess. An abscess is an accumulation of pus that can compress or perforate adjacent structures.

Low fiber intake and high consumption of red meat are considered risk factors for the development of diverticular disease of the colon, as they reduce the volume and consistency of feces, making intestinal transit difficult and increasing pressure in the colon. Fibers are plant components that are not digested by the human body and that increase the fecal bulk, facilitating the elimination of feces. Red meat is rich in fat and animal protein, which delay gastric emptying and increase the time that feces remain in the large intestine. These factors contribute to the formation of diverticula and their

inflammation.

The diagnosis of diverticular disease of the colon is essential for the appropriate management of this condition. Imaging exams are the main means of identifying the presence and characteristics of diverticula in the large intestine, as well as associated complications. Computed tomography is the most used imaging test, as it has high sensitivity and specificity for the diagnosis of colon diverticular disease and its complications. Computed tomography makes it possible to assess the degree of inflammation, infection or perforation of the diverticula, the presence of abscesses, fistulas or strictures, the involvement of other organs or abdominal structures and the general condition of the patient. Ultrasonography and magnetic resonance imaging are other imaging options that can be used in cases of contraindication or unavailability of computed tomography. These exams also allow visualization of diverticula and complications, but are less accurate than computed tomography.

Colonoscopy is an endoscopic examination that allows you to directly visualize the colon mucosa and confirm the presence of diverticula. Colonoscopy can also exclude other pathologies of the colon, such as polyps, tumors, or colitis, which can cause symptoms similar to those of diverticular disease of the colon. However, colonoscopy should be avoided in the acute phase of diverticulitis as it may increase the risk of perforation or bleeding from the diverticula.

Treatment of colon diverticular disease aims to control inflammation and infection of the diverticula, prevent complications and improve the patient's quality of life. Treatment depends on the severity and complications of the disease. Most cases can be treated conservatively, with oral or intravenous antibiotics, analgesics, bowel rest and a low-residue diet. These measures aim to reduce inflammation and infection of the diverticula and alleviate symptoms such as abdominal pain, fever and changes in bowel habits. The most used antibiotics are those that are active against anaerobic and gram-negative bacteria, which are the most common in the intestinal flora. The most commonly used analgesics are non-steroidal anti-inflammatory drugs (NSAIDs) or opioids, depending on the intensity of the pain. Bowel rest consists of avoiding solid foods for a few days until symptoms improve. The low residue diet consists of avoiding foods high in fiber for a few weeks until the diverticula heal.

Surgery is indicated for cases refractory to conservative treatment, cases complicated by perforation, abscess, fistula or intestinal obstruction, or recurrent cases with disabling symptoms. The surgery aims to remove the affected part of the intestine and restore continuity of intestinal transit. Surgery can be performed open or laparoscopically, the latter being associated with lower morbidity and shorter hospital stays. The most commonly used surgical technique is primary intestinal resection with primary anastomosis, which consists of removing the affected part of the intestine and joining the remaining ends. In cases of diffuse peritonitis or hemodynamic instability, colostomy with deferred intestinal resection may be chosen. A colostomy is an artificial opening of the intestine in the abdominal wall, which allows feces to exit into an external bag. Deferred intestinal resection is performed in a second surgical procedure, after the clinical and inflammatory condition has improved.

Prevention of colon diverticular disease is important to avoid complications and improve patients' quality of life. A diet rich in fiber is considered one of the main preventive factors, as it increases the fecal volume, facilitates the elimination of feces and reduces pressure in the colon. Sources of fiber include fruits, vegetables, legumes, whole grains and seeds. Fibers should be ingested with plenty of water to avoid the formation of hard, dry stools. The recommended daily fiber intake is 25 to 30 grams for adults. A diet low in red meat is also recommended, as red meat is rich in fat and animal protein, which delay gastric emptying and increase the time that feces remain in the large intestine. The daily recommended intake of red meat is up to 70 grams for adults.

Practicing regular physical activity is also considered a preventive factor for diverticular disease of the colon, as it improves intestinal muscle tone and prevents obesity, which is a risk factor for the disease. Physical activity stimulates peristaltic bowel movements, which are the contractions that push feces along the colon. Physical activity also helps control body weight, which is related to the incidence of colonic diverticular disease. Obesity increases intra-abdominal pressure and alters the metabolism of hormones that regulate intestinal function. The daily physical activity recommendation for adults is at least 150 minutes of moderate exercise or 75 minutes of vigorous exercise per week.

In addition to diet and physical activity, it is recommended to avoid excessive use

of non-steroidal anti-inflammatory drugs (NSAIDs), which are medications used to relieve pain and inflammation. NSAIDs can irritate the colon mucosa and promote bleeding from the diverticula. The most common NSAIDs are acetylsalicylic acid (aspirin), ibuprofen and naproxen. These medications should be used with caution and under medical guidance, especially by patients with a history of or risk for diverticular disease of the colon.

Primary intestinal resection with primary anastomosis is the most used surgical technique for the treatment of diverticular disease of the colon, as it allows the affected part of the intestine to be removed and restore continuity of intestinal transit. This technique can be performed open or laparoscopically, the latter being associated with lower morbidity and shorter hospital stays. Primary intestinal resection with primary anastomosis consists of removing the part of the colon that contains the inflamed or perforated diverticula and joining the remaining ends with sutures or staples. This technique has the advantages of preserving intestinal function, the absence of a stoma and a lower rate of disease recurrence.

Colostomy with deferred intestinal resection is an alternative surgical technique for the treatment of colonic diverticular disease, which is indicated in cases of diffuse peritonitis or hemodynamic instability. This technique consists of creating an artificial opening of the intestine in the abdominal wall, called a colostomy, which allows feces to exit into an external bag. A colostomy is performed to divert intestinal transit and prevent feces from coming into contact with the inflamed or perforated part of the colon. Deferred intestinal resection is performed in a second surgical procedure, after the clinical and inflammatory condition has improved. In this step, the affected part of the intestine is removed and the remaining ends are joined together. Then, the colostomy is reversed and intestinal transit is reestablished.

CONSIDERAÇÕES FINAIS

Diverticular disease of the colon is a common and potentially serious condition that affects the large intestine and can cause inflammation, infection or perforation. Colon diverticular disease is influenced by genetic, environmental and dietary factors, and is more prevalent in Western and industrialized countries. Low fiber intake and high

consumption of red meat are considered risk factors for developing the disease. Diverticular disease of the colon can be asymptomatic or present different clinical manifestations, depending on the severity and complications. The most common clinical manifestations are abdominal pain in the left lower quadrant, fever, leukocytosis and signs of peritoneal irritation. Other less frequent manifestations are diverticular bleeding, the formation of abscesses, fistulas or strictures.

The diagnosis of colon diverticular disease is made using imaging tests, such as computed tomography, ultrasound or magnetic resonance imaging. These exams allow you to visualize the presence, location and number of diverticula in the large intestine, as well as possible complications. Colonoscopy is a complementary exam that can confirm the presence of diverticula and exclude other colon pathologies, such as polyps, tumors or colitis.

Treatment for diverticular disease of the colon depends on the severity and complications of the disease. Most cases can be treated conservatively, with oral or intravenous antibiotics, analgesics, bowel rest and a low-residue diet. These measures aim to reduce inflammation and infection of the diverticula and alleviate symptoms. Surgery is indicated for cases refractory to conservative treatment, cases complicated by perforation, abscess, fistula or intestinal obstruction, or recurrent cases with disabling symptoms. Surgery can be performed open or laparoscopically, the latter being associated with lower morbidity and shorter hospital stays. The most commonly used surgical technique is primary intestinal resection with primary anastomosis, which consists of removing the affected part of the intestine and joining the remaining ends. In cases of diffuse peritonitis or hemodynamic instability, colostomy with deferred intestinal resection may be chosen.

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