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ISCHEMIC COLITIS: A COMPLICATION OF COVID-19

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ABSTRACT

Ischemic colitis is a gastrointestinal complication that can occur in patients infected with COVID-19. This condition is characterized by decreased blood supply to the colon, resulting in inflammation and damage to the intestinal tissue. Symptoms of COVID-19 ischemic colitis include abdominal pain, diarrhea, rectal bleeding, and fever. Early diagnosis is essential to avoid serious complications such as intestinal perforation. Treatment usually involves supportive measures, control of the COVID-19 infection, and appropriate management of ischemic colitis. More research is needed to better understand this condition and develop more effective prevention and treatment strategies. The awareness of health professionals about this complication is crucial to ensure adequate care for patients infected with COVID-19.

KEYWORDS: Health; COVID-19; Colitis.

1. INTRODUCTION

The COVID-19 (*Coronavirus Disease*, 2019) is an infectious disease primarily affecting the respiratory system that emerged in December 2019 from an outbreak of pneumonia that affected individuals in the city of Wuhan, in the province of Hubei, China. Its etiological agent was isolated on January 7, 2020 by the Chinese Center for Disease Control (CCDC) using the RT-PCR technique (real-time polymerase chain reaction) and it was found to be a new betacoronavirus, which was named SARS-CoV-2, due to its genome being similar to that of two other coronaviruses, the SARS- CoV, which causes the SARS epidemic (*Severe Acute Respiratory Syndrome*) in 2002 and the MERS- CoV, which caused the MERS (*Middle -East Respiratory Syndrome*) in 2009 (SOHRABI et al., 2020).

Unlike these two coronaviruses, SARS-CoV-2 has shown lower lethality, but a higher transmission capacity, causing a large-scale pandemic (MEO et al., 2020), such that on January 30, In 2020, the World Health Organization (WHO) declared the COVID-19 epidemic in China a public health emergency of international character, capable of generating a risk of collapse in vulnerable health systems (SOHRABI et al., 2020). Until the 25th of November, in the world there were a total of 60,541,397 cases and 1,424,224 deaths. Brazil is the second country in the world in absolute number of deaths and the third in total number of cases, with a total of 6,166,606 confirmed cases, among which 170,769 individuals died (JOHNS HOPKINS UNIVERSITY, 2020).

SARS-CoV-2 appears to have tropism for cells of the respiratory epithelium, type 2 pneumocytes, binding to them through ACE 2 receptors (angiotensin-converting enzyme 2). After inoculating its RNA into the target cell, an intense immune response begins, with the release of inflammatory cytokines, which are supposed to be responsible for damage to multiple organs (JIANG et al., 2020). The most commonly found clinical manifestations are fever, dry cough, myalgia, fatigue, dyspnea and pneumonia. Other less common symptoms include headache, diarrhea, hemoptysis, rhinorrhea and cough with sputum (ADHIKARI et al., 2020). Among the systems with records of damage caused by COVID-19, the following can be included: respiratory, cardiovascular, neurological, gastrointestinal, hematological and urinary systems, with acute kidney injury (AKI) being an important complication in the latter (LAI et al, 2020).

Ischemic colitis is a condition in which inflammation and damage to the lining of the colon occurs due to decreased blood flow to this region. It is believed that COVID-19, the disease caused by the SARS-CoV-2 coronavirus, may be associated with the development of ischemic colitis in some patients.

Recent studies have reported cases of ischemic colitis in patients with COVID-19, suggesting a possible relationship between the viral infection and the occurrence of this condition. It is thought that systemic inflammation, endothelial dysfunction, and blood clot formation associated with SARS-CoV-2 infection may lead to decreased blood flow to the colon, triggering ischemic colitis

2. MATERIALS AND METHODS

The present study deals with a qualitative analysis, based on research characterized as a bibliographic review, exploratory and descriptive in nature. According to Gil (2008), the bibliographic review research is developed based on material already elaborated, consisting mainly of books and scientific articles. Still according to this author, the exploratory study allows greater proximity to the theme in question, expanding the researcher's knowledge and allowing to improve and elucidate concepts and ideas. With regard to the descriptive nature, we seek to develop and clarify concepts and ideas, with a view to formulating more precise problems.

The literature review carried out in this work involved publications indexed in the Electronic Portal of the Virtual Health Library (VHL) in the BDEnf, LILACS and MedLine databases . The descriptors used to search for studies were: "Colitis, "COVID-19", "Colitis and COVID-19". Searches were also carried out for their correspondents in English: "Colitis, "COVID-19", "Colitis and COVID-19".

As an inclusion criterion, the use of full open access articles, published in Portuguese and English in the last five years (2019-2023) was defined. Exclusion criteria were articles that were not available in full and not in line with the study theme. Data were extracted and deposited in specific sheets/spread sheets used for data extraction. The selected works, based on the inclusion and exclusion criteria, were kept in folders, forming the specific analysis.

After selection, according to the inclusion and exclusion criteria, the articles were carefully read according to what best fit the topic addressed and at the end of the review, a total of thirty articles considered relevant to the study were used.

3. RESULTS AND DISCUSSION

For Carnevale, Beretta and Morbini (2021), ischemic colitis is a condition characterized by reduced blood flow to the colon, leading to damage to the intestinal tissue. COVID-19, caused by the SARS-CoV-2 virus, has been associated with several clinical manifestations, including gastrointestinal symptoms. Recent studies have reported the occurrence of ischemic colitis in patients with COVID-19.

The signs and symptoms of COVID-19 ischemic colitis can vary, but typically include severe, persistent abdominal pain, diarrhea, bloody stools, nausea, vomiting, and fever. These symptoms may be similar to those of other gastrointestinal diseases, making the differential diagnosis difficult (ZHOU, 2020).

Pan et al (2020), believe that ischemic colitis in patients with COVID-19 occurs due to a combination of factors, such as systemic inflammation, changes in blood clotting and direct damage to the vascular endothelium caused by the virus. In addition, the individual predisposition of each patient and the presence of comorbidities may contribute to the development of ischemic colitis.

Diagnosis of COVID-19 ischemic colitis is based on clinical evaluation, laboratory tests, and imaging tests such as colonoscopy and CT scan. Importantly, confirming the diagnosis requires excluding other causes of gastrointestinal symptoms, such as bacterial or viral infections (KATZ-AGRANOV and ZANDMAN-GODDARD, 2021).

The treatment of ischemic colitis due to COVID-19, according to Bhayana et al (2019), involves a multidisciplinary approach, with support measures and control of SARS-CoV-2 infection. Patients are monitored for disease progression, and intravenous fluids, analgesics, and antibiotics may be required in cases of secondary infection. In some severe cases, it may be necessary to intervene surgically to remove affected areas of the colon.

4. CONCLUSION

In conclusion, COVID-19 ischemic colitis is an important clinical manifestation that requires adequate attention and care. The signs and symptoms can be similar to those of other gastrointestinal diseases, which highlights the importance of an accurate differential diagnosis. Healthcare professionals should be alert to patients with COVID-19 who present with persistent abdominal pain, diarrhea and other gastrointestinal symptoms, especially those with additional risk factors.

Early diagnosis is essential to avoid serious complications, such as intestinal perforation and sepsis. Therefore, it is important for healthcare professionals to consider ischemic colitis as a possible complication in patients with COVID-19, especially those with more severe illness.

In addition, a multidisciplinary approach in the management of ischemic colitis due to COVID-19, involving gastroenterologists, infectologists and surgeons

as needed, is essential. Clinical management should include supportive measures, control of SARS-CoV-2 infection, and appropriate treatment of the ischemic colitis itself.

Importantly, much remains to be discovered about COVID-19 ischemic colitis, including its exact prevalence, pathophysiology, and long-term impact on patients. More research and studies are needed to deepen our knowledge in this area and improve diagnostic and treatment strategies.

In summary, COVID-19 ischemic colitis is a relevant complication that can affect the gastrointestinal system in patients infected with SARS-CoV-2. Awareness among healthcare professionals, along with continued research, is critical to ensuring early diagnosis and appropriate treatment, providing better outcomes for patients affected by this condition.

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