World Journal of Research and Review (WJRR)
ISSN: 2455-3956, Volume-13, Issue-6, December 2021 Pages 10-11

Acute Abdomen in a Patient with SIDA due to the Inclusion of Cytomegalovirus

Valdemir José Alegre Salles[1], Gustavo Simões de Araújo Alegre Salles[2], Gabriela Teles Cortez[4], Isabela Simões de Araújo Alegre Salles[3], Isabele Teles Cortez[5], Ítalo Bruno do Nascimento Moura[6] e Vitória Coutinho Ribeiro[3]

***Abstract*- Cytomegalovirus is a member of the herpes virus group, whose primary infection is usually subclinical and manifesting itself in the presence of acquired immunodeficiency syndrome. Intestinal involvement by cytomegalovirus is an infrequent complication and in its clinical manifestation we can highlight gastrointestinal hemorrhage, abdominal pain, weight loss, diarrhea and fever, as the most common, regardless of the intestinal segment affected.**

***Index Terms*- AIDS; cytomegalovirus; gastroenterology; abdomem acute; infectious.**

CASE REPORT

A 42-year-old female patient with Acquired Immunodeficiency Syndrome under regular treatment was admitted to the Emergency Department with a respiratory condition manifested by productive chronic cough accompanied by progressive respiratory failure associated with acute abdominal pain. On general physical examination, she was septic, febrile, dehydrated, tachypneic and in respiratory failure. On respiratory auscultation, the presence of bilateral gross snoring was evident. Abdominal physical examination presented with generalized pain associated with diffuse peritoneal irritation. Submitted to laboratory tests where the presence of anemia, leukopenia, hyponatremia and hypocalcemia was observed. In the radiological evaluation, she underwent a chest computed tomography (Figure 1), which showed a bilateral interstitial infiltrate compatible with Pneumocystis carinii pneumonia. The abdominal tomographic evaluation demonstrated the presence of jejunoileal distension, free intraperitoneal fluid, without pneumoperitoneum. Despite her respiratory condition, the patient underwent exploratory laparotomy, with diffuse fecal peritonitis due to multiple perforations in the small intestine (Figure 2). An ileal enterectomy with terminal ileostomy and peritoneostomy was performed. The anatomopathological examination revealed the existence of multiple aphthous ulcers in the ileum, interspersed with deep lesions at the points of perforation, and on microscopy the presence of typical intranuclear inclusions of the cytomegalovirus

1 - Assistant Doctor Profesor, Department of Medicine, University of Taubaté, Brazil.
2 - Nutrition Student, University San Camilo, São Paulo, Brazil.
3 - Medicine Student, University of Volta Redonda, UNIFOA, Brazil.
4 - Medical Student, University of Taubaté, São Paulo, Brazil.
5 - Medicine Student, Itajúba School of Medicine, Minas Gerais, Brazil.
6 - Medical Clinic Resident at the José Carvalho Florence Municipal Hospital, São José dos Campos, São Paulo, Brazil.

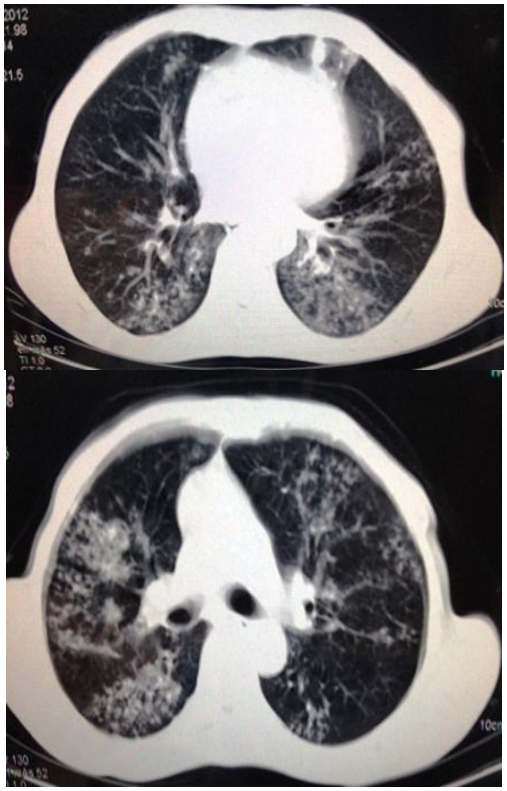

Figure 1: Computed Tomography with showed a bilateral interstitial infiltrate.

Figure 2: Exploratory laparotomy, with multiple perforations in the small intestine.

DISCUSSION

Cytomegalovirus is a member of the herpes virus group, whose primary infection is usually subclinical, and may remain latent in the body for a long period, manifesting itself

in the presence of immunosuppression, such as chemotherapy, transplant and acquired immunodeficiency syndrome (AIDS). Intestinal involvement by cytomegalovirus is an infrequent complication and in its clinical manifestation we can highlight gastrointestinal hemorrhage, abdominal pain, weight loss, diarrhea and fever, as the most common, regardless of the intestinal segment affected.[1,2] Cytomegalovirus infection in the digestive tract is common in AIDS patients, who present colic involvement in 47%, duodenal in 21.7%, gastric in 17.4%, esophageal in 8.7% and bowel involvement thin in 4.3% of cases, whose mortality rate is correlated with a CD4 count below 50 cells/IU.[3,4]

In patients infected with human immunodeficiency virus, cytomegalovirus (CMV) retinitis is the most common clinical manifestation of CMV end-organ disease, followed by gastrointestinal tract involvement. Although CMV infections can affect the entire gastrointestinal tract, it frequently involves the esophagus and the colon.[5] It is a common viral infection in 50% to 100% of humans worldwide, depending on the age and race of the population tested. This activity discusses current approaches to diagnose and manage CMV colitis. The CMV genome is the largest among human viruses (approximately 230 kb), containing 200 genes encoding proteins. In healthy subjects, CMV colitis is usually asymptomatic or causes self-limited disease but may result in chronic infection or a life-long carrier state with intermittent reactivation.[6] In the evaluation of diarrheal illness in HIV, stool studies play a central role. A stool culture, ova and parasites, and specific stool antigen testing should be obtained in all HIV patients presenting with diarrhea with differential for include cytomegalovirus infection, immune reconstitution inflammatory syndrome, and infiltrative diseases, specifically Mycobacterium avium and lymphoma.[7]

In the pathogenesis of intestinal damage caused by cytomegalovirus, there is a vasculitis of the submucosal vessels resulting in thrombosis with areas of ischemia, which determines the formation of ulcerations, inflammation with necrosis or perforation.[8] The previous presence of ulcerated lesions in the mucosa seems to aggravate the tissue reaction when in contact with the virus. In the perforated intestine, several mucosal ulcerations are observed, with varying intensity, which may reach full-thickness perforation lesions, with a brownish color and located on the serous surface, which correspond to deep ulcerations.[5] Histologic examination showed multiple areas of mucosal ulceration with acute and chronic inflammation, in addition to transmural inflammation and necrosis at the perforation sites.[8] Microscopic examination of the lesions reveals an inflammatory process associated with granulation tissue with the cell nucleus showing typical cytomegalovirus inclusions, which indicates the production of active viruses. Other tests, such as immunohistochemistry, in-situ hybridization, polymerase chain reaction and serology are used for diagnosis.[9]

In HIV-positive patients, most cases of intestinal perforation due to CMV infection occur in the advanced stage. Surgical resection of the segment affected by perforation is mandatory, and the high rate of intestinal perforation in the immediate postoperative period should be highlighted, with a mortality ranging from 54% to 87% among all patients with AIDS who undergo surgery for urgency. In the treatment of uncomplicated gastrointestinal disease caused by cytomegalovirus, the use of drugs such as ganciclovir is effective, however maintenance therapy does not prevent the progression of the disease, leaving the medication foscarnet and cidofovir as a therapeutic option.[10]

REFERENCES

[1] Osawa R, Singh N: Cytomegalovirus infection in critically ill patients: a systematic review. Crit Care 2009; 13:R68.

[2] Nick Michalopoulos1*, Konstantina Triantafillopoulou1, Eleni Beretouli2, Styliani Laskou1, Theodossis S Papavramidis1, Ioannis Pliakos1, Prodromos Hytiroglou2 and Spiros T Papavramidis1 BMC Research Notes 2013; 6:45.

[3] Barling DR, Simon Tucker, Haren Varia, Peter Isaacs. Large bowel perforation secondary to CMV colitis: an unusual primary presentation of HIV infection. BMJ Case Rep 2016; 217-21.

[4] Wang Y, Lin X, Li Y, Wen Y. Multiple small bowel perforations due to cytomegalovirus related immune reconstitution inflammatory syndrome in an HIV patient: A case report. Medicine (Baltimore). 2021 Jul 16;100(28):e26605.

[5] Azer SA, Limaiem F. Cytomegalovirus Colitis. 2021 Jul 20. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan–. PMID: 31194388.

[6] Noor A, Bedi D, Yassin MH. Multiorganism HIV-associated diarrhea and telescoping bowel. Proc (Bayl Univ Med Cent). 2020;33(3):386-388.

[7] Spencer SP, Power N: The acute abdomen in the immune compromised host. Cancer Imaging 2008; 22(8):93–101.

[8] Talmon, G A. Histologic features of cytomegalovirus enteritis in small bowel allografts.Transplant Proc ; 42(7): 2671-5, 2010 Sep.

[9] Lee YC, Chiou CC, Wang JT, Yang YC, Tung SH, Hsieh SM. Non-traumatic perforation of the jejunum in a human immunodeficiency virus-infected patient receiving combination antiretroviral therapy: A case report. Medicine (Baltimore). 2019; Dec;98(49):e18163.

[10] Shiekh RA, Yasmeen S, Prindiville TP, Ruebner BH: Intestinal perforation and peritonitis in AIDS: Case series and review of the literature. JK-Practitioner 2004; 11(4):248–56.

- Conflict of interest:
The authors declare no conflict of interest.
- Funding source:
None.