Segmental cytomegalovirus colitis mimicking sigmoid tumor in an immunocompetent patient

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Dear editor,

Cytomegalovirus (CMV) is a pathogen that tends to provoke opportunistic infections in immunocompromized individuals who have undergone transplantation, are suffering from an inflammatory bowel disease with chronic corticosteroid treatment, or in patients with HIV. Contact with the virus will have taken place in most immunocompetent individuals, as determined by the presence of specific antibodies in the different series ranging between 45% and 100%. Its behavior is usually totally asymptomatic. Exceptional cases of CMV symptomatic infection have been reported in the central nervous system and colon (1). In the latter, it manifests generally in the form of watery diarrhea accompanied or not by rectal bleeding and non-specific abdominal pain.

Here, we present the case of a female 72-year-old patient whose only relevant medical history corresponds to arterial hypertension treated with a single drug and type 2 diabetes mellitus well controlled with oral antidiabetics. The patient was admitted to the Emergency Department due to worsening of an abdominal pain that had been present for some months and for which the patient had attended a regular appointment at a primary care center. The abdominal pain was located on the left iliac fossa and, on this occasion, was accompanied by various episodes of rectal bleeding. The patient reported habitual intestinal constipation treated with chronic laxative use. She did not describe the presence of mucus or other pathological products in her feces, nor did she report fever or any other symptomatology. The physical examination revealed nothing of significance other than the presence of abdominal pain on the left iliac fossa with no signs of peritoneal irritation. Complementary tests revealed a decrease in hemoglobin of 4 g/dL compared to a control test done two months before. The presence of moderate leukocytosis (12000 cells/mm^3) and elevated C-reactive protein (90 mg/mL) was also detected.

After revising the clinical data and recent complementary tests, we discovered that an abdominal CAT scan had been performed two weeks before. It was possible to distinguish a marked inflammation of an 8-10 cm segment of the sigmoid colon of idiopathic origin (inflammatory vs. ischemic vs. tumoral) (Figure 1a). Given the recent history of the patient and the absence of risk factors for ischemic colitis, the most probable cause without discarding the possibility of an occult neoplasia was sigmoid diverticulitis. Treatment was initiated with 1 g of amoxicillin/clavulanic acid three times daily. The patient was admitted to the hospital to follow her evolution which was favorable with good analgesic control, good oral tolerance and daily bowel movement with laxatives. There were no further episodes of rectal bleeding.

Blood tests during this period revealed no abnormal findings (cell count, biochemical parameters, liver enzymes) that could lead to any specific clinical suspicion. After two weeks of antibiotic treatment, a new abdominal CAT scan was performed to evaluate the response to the therapy. As no improvement was observed of the inflamed segment at colon level, a colonoscopy with biopsy was performed to characterize the stenosis at that level. It revealed an area of stenosis that could not be traversed by the endoscope (Figure 1b), and it was not possible to specify the origin; samples were taken for biopsy. The anatomopathological report determined non-specific colitis. As it was not possible to safely discard the possibility of an inflammatory or tumoral origin of the lesion, we performed a laparoscopic sigmoidectomy. Post-operatory evolution was uneventful and the patient was discharged from hospital 5 days after the intervention.

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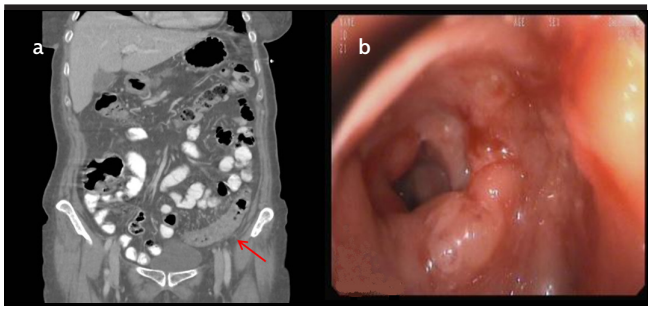

Figure 1. a, b. CAT scan image in which a stenosis of a long sigma segment of the colon can be observed (a); Endoscopic image showing a stenotic lesion at sigma level (b).

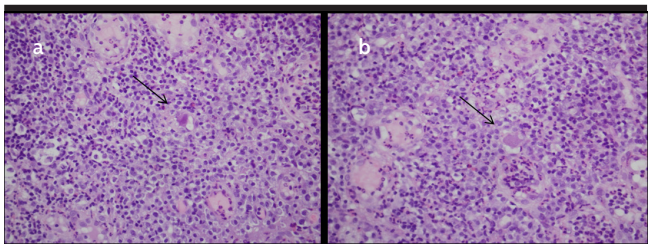

Figure 2. a, b. Optical microscopy images with a 200x magnification and hematoxylin-eosin technique, showing endothelial tissue on granulation tissue with CMV inclusion bodies at intranuclear (a); and intracytoplasmic level (b).

The definitive anatomopathological report determined CMV colitis with no evidence of tumoral disease (Figure 2a, b).

Infection by CMV in immunocompetent patients is rare, although in recent years the reporting of cases has risen markedly (2,3). Given the absence of endoscopically identifiable characteristics (4) and as the usefulness of serology is somewhat dubious in view of the high rate of contact in the general population, the main diagnostic tool is clinical suspicion and histological criteria (5,6). In the case reported here, we had no clinical suspicion and based ourselves on the most epidemiologically common options, namely diverticulitis and neoplasias. An additional problem is that CMV colitis can also occasionally develop with a significant inflammatory component and can, therefore, be confused with either of these two pathologies (7-9). As with the case presented here, other cases have been previously reported to have concluded with surgical intervention in which no definitive diagnosis was made until an anatomopathological analysis had been performed (10).

The typical morphology of CMV-infected cells entails an increase in cell size and basophilic intranuclear inclusion bodies with a halo which give an "owl's eye" appearance. It is well-known that infection by CMV can also produce similar inclusion bodies in the cytoplasm. Diagnosis can be undertaken using hematoxylin-eosin techniques, as in the case presented here. Increased sensitivity of CMV detection in tissue samples can be achieved via staining with immunoperoxidase or immunofluorescence for CMV antigens using monoclonal antibodies and/or in situ DNA hybridization5.

Once the diagnosis has been made, most authors recommend treatment with ganciclovir, valganciclovir or both, generally with good results, although the limited data about this pathology in immunocompetent individuals means that it is impossible to know whether a good clinical evolution is due to self-limitation of the infection or the therapy itself (1,5,6).

In conclusion, given the increased incidence of this pathology, we believe that it is worth including this entity in the differential diagnosis of masses or segmental inflammation of the colon in immunocompetent patients, at least in individuals with uncommon or unexpected evolution.

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