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Case Report
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Intestinal Ameboma in an Elderly Patient as a Rare Cause of Appendicitis

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Abstract

We report a case of acute abdomen in an elderly patient that was admitted with the presumptive diagnosis of cecum neoplasm versus complicated acute appendicitis. In the histologic examination, after right hemicolectomy, we made the diagnosis of complicated amoebic appendicitis. In this case report we present the classic clinical manifestations and histopathologic findings of this rare presentation of amoebic infection.

Introduction

Amebiasis is a parasitic infection caused by *Entamoeba histolytica*, it is the third most important parasitosis in the world, and its prevalence is estimated to be about 10% of all the world population. It affects nearly 20% of the total population in Mexico, but there are populations with low socioeconomical status that present a prevalence as high as 50%. It is estimated that there are one million cases of amebiasis with approximately 1,200 deaths due to this disease every year. It has been shown that up to 8% of the Mexican population have serum anti-amoebic antibodies.

Patients affected by *Entamoeba histolytica* can present colonic disease and extraintestinal invasion principally to the liver in 2% of all the cases; this is due to the immune system and the bacterial synergy.

Ameboma is an infrequent complication of amebiasis, with an incidence of up to 1.5%. Parasitic appendicitis is another complication secondary to amebiasis, with a prevalence of 0.5% in India and 2.3% in Mexico. Ameboma is characterized for presenting a granulomatous and proliferative response that forms a pseudo tumoral lesion with granular aspect appearing in patients with untreated amebiasis or patients with amebiasis that isn't treated correctly, probably due to a secondary bacterial infection. Generally, it presents in patients of any age group, leaning towards the male gender, localized at the cecum, ascending colon and terminal ileum, developing diameters up to 15 cm or more.

Clinically it manifests as a tumoral mass, with abdominal pain and diarrhea, and in some occasions, even though not necessarily with symptoms of partial or total intestinal obstruction, upper or lower gastrointestinal bleeding and acute abdomen, for which it can easily be confused with a carcinoma.

Case Presentation

81-year-old male, with a past medical history of hypertension, prostate cancer in remission, as well as a pacemaker due to an atrioventricular blockage. Without any past surgical history.

His current illness initiates with colicky abdominal pain in the lower hemiabdomen, two weeks duration that worsens two days prior to admission to the surgery ward. He mentions an increase in the intensity of his pain now located in his right lower quadrant, accompanied with diarrhea without blood or mucus in the last two weeks. There is weight loss of 5 kg in the last month, without any change in his eating habits. A CT-scan is performed during his admission to the hospital that shows a thickening of the cecum wall, a diagnosis of cecal tumor *vs.* a complicated acute appendicitis was established and taken for a laparotomy, in which a mass of 10 cm in diameter is observed at the cecum region. A right hemicolectomy is performed (Figure 1), with a hand sewn ileo-transverse end to side anastomosis without any complications, the sample is sent for histopathologic examination, which reports the presence of an ameboma with erosive subacute colitis in cecum and acute

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Figure 1: Surgical specimen where thickening of the cecum wall is observed, with fibrotic changes and erythematous mucosa.

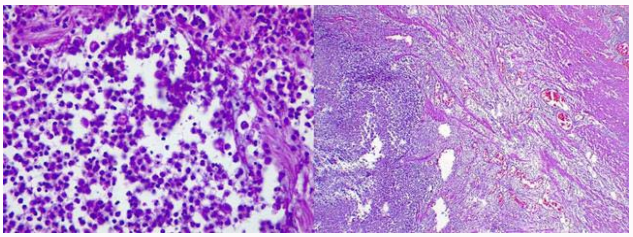

Figure 2: Ameboma with erosive subacute colitis in cecum and acute suppurative appendicitis, with the presence of granulation tissue and chronic unspecific ileitis.

suppurative appendicitis, with the presence of granulation tissue and chronic unspecific ileitis (Figure 2).

Discussion

Amebiasis is a disease caused by a protozoan and is a cause of major morbidity and is still and important public health problem in developing countries. Worldwide is the third cause of death due to parasites after schistosomiasis and malaria. Humans are the only hosts of *Entamoeba histolytica* and its transmission is by fecal-oral route [1]. Though most infections from this parasite are have an asymptomatic course (90% of humans harbors the parasite and are asymptomatic carriers) and when it's symptomatic may present as dysentery or as invasive amoebiasis with a fulminating and fatal course [2].

The life of cycle of *E. histolytica* consist of two stages an infectious non-invasive cyst sporozoite stage and an invasive trophozoite stage, the first stage consists when the cyst that are non-invasive travel through the gastrointestinal tract transform into invasive trophozoites in the terminal ileum and proximal colon, this location appears to be influenced by stasis [2]. The *Entamoeba* colonize the submucosa of the colon and spread laterally to form flask-shaped ulcers that may become confluent with a characteristic undermined edge [3], in patients with a long-standing infection will develop tumors exophytic, cicatricial masses known as "ameboma" [4]. Ameboma of the large bowel is a large condition and complication of amebiasis that presents only in 1.5% of all cases of invasive amebiasis characterized by a mass of granulation tissue accompanied with peripheral fibrosis. [5]. The ameboma are usually solitaries, the size may be variable and can be up to 15 cm in diameter, the most affected sector are men between 20 to 60 years of age. The localizations of ameboma in decreasing order of frequency are cecum, appendix, rectosigmoid region, hepatic flexure, transverse colon [4].

Amoebic colitis it's a symptomatic intestinal infection that has a presentation composed of abdominal pain, bloody diarrhea or watery and an important loss of weight due to invasive amoebiasis. Due to its low incidence of invasive amoebiasis in industrialized countries this leads to the unfamiliarity of the signs and symptoms that an amoebic colitis can present, additionally to this the symptoms can also mimic and inflammatory bowel disease, an appendicular abscess or a colon cancer or diverticulitis in elderly people [6].

Clinically an ameboma has nonspecific symptoms that may include right lower quadrant mass in the cecum, symptoms that can present as a complete or partial intestinal obstruction this due to a narrowing of the lumen and also can present as bloody diarrhea and can include fever and weight loss [7]. Therefore, amoebic colitis can misdiagnose as IBD or colon cancer. The diagnosis cannot be obtained through endoscopic study in nearly one third of patients [5], the endoscopic findings can be discrete ulcers with random distribution and the hallmark of amoebic colitis is a flask-shaped mucosal ulcer, which are present due to the spreading of trophozoites in the mucosa.

The major complications of ameboma may include perforation, obstruction, intussusception, and appendicitis, intestinal perforation is rare and happens in only 1.9% to 9% of the cases [8]. Athié-Gutierrez in 2009 analyzed 122 cases of colon perforation caused by invasive amoebiasis, perforation was the most frequent surgical complication of invasive amoebiasis of the colon and was associated with a mortality rate of 40% [9].

Appendicular involvement is an extremely rare form of presentation of amoebiasis that has a higher incidence in tropical countries. In Mexico the incidence of appendicular involvement is of 2.3% [10]. The physiopathology of appendicitis is the luminal obstruction to the presence of amoebae or because an intense mucosal edema secondary of invading trophozoites.

The management of amebic perforation is a challenging issue due to the poor prognosis and the mortality as high as 75% [11]. Early laparotomy is the treatment of choice, when there is an extensive involvement or there are multiple perforations or gross contamination the ideal procedure is a right hemicolectomy with and ileostomy or Hartmann procedure always accompanied with medical treatment to eradicate the infection of *E. histolytica*. The surgical management of ameboma should always be limited to emergency care of complications such as abscess, obstruction or perforation.

Conclusion

Amoebic colitis with appendicitis is an extremely rare event; the adequate and early diagnosis is of great importance for the suitable management. All patients with suggestive history of findings of amoebic appendicitis should be evaluated with an imaging study to rule out any complication such as amoebic perforation, such complications can be fatal and early treatment is advisable.

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