

A case of amoebic colitis with amoeboma and simultaneous liver abscesses. A diagnosis by colonoscopy

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Abstract

A 50-year-old patient was admitted to our department after developing severe abdominal cramps, watery diarrhea and fever, during four days whilst travelling abroad. Imaging identified a mass in the ascending colon with simultaneous liver lesions. Initially a diagnosis of metastatic colorectal cancer was suggested, however colonoscopy showed a large lesion with a central ulcer and surrounding inflammation in the ascending colon. Biopsies confirmed our clinical suspicion of amoebic colitis, complicated by development of an amoeboma and simultaneous liver abscesses.

Amoeboma formation is a rare complication of amoebiasis, however a simultaneous presentation with liver abscesses, amoebic colitis and an amoeboma might even be less frequent. Despite its rarity physicians should maintain a high index of suspicion of patients presenting with synchronous liver and colon lesions, especially as travel to endemic areas has increased. (*Acta gastroenterol. belg.*, 2019, 82, 539-541).

Key words : Entamoeba histolytica, amoeboma, amoebic colitis, liver abscess, dysentery and HIV.

Introduction

Amoebic colitis is an infectious disease caused by the protozoan *Entamoeba histolytica*, which can reside in the lumen of the human bowel in two different states, as an inactive cyst in minuta form or as an active trophozoite in the amoeboid magna form. Infection occurs predominantly by cyst ingestion through fecally contaminated food or contaminated water, followed by excystation and trophozoite production by the minuta form. These trophozoites ingest bacteria, food particles and are hematophagous, therefore presence of *E. histolytica* can be identified by visualization of amoebae with signs of erythrophagocytosis (1). Although infections are seen worldwide, the highest incidence is found in (sub-) tropical countries and the developing regions of the world, where inadequate sanitation and overpopulation facilitate transmission (2).

The most common presentation of *E. histolytica* infection is amoebic colitis, characterized by frequent watery stools, containing varying amounts of blood and/or mucus, with abdominal pain, tenesmus and anorexia (1,2). Extraintestinal manifestations of *Entamoeba* infection most likely arise due to hematogenous spread from the gastrointestinal tract and therefore most frequently in the form of amoebic liver abscesses.

Generally these patients do not have any bowel symptoms and tend to have negative stool samples.

The diagnosis of amoebiasis can be challenging as it may mimic metastatic colorectal cancer, pyogenic liver abscesses or inflammatory bowel disease. In rare cases the development of mass-like granulation tissue or an amoeboma can easily be mistaken for a tumor (3,4). For years diagnosis of *Entamoeba histolytica* infection was solely based on the microscopic evaluation of stool samples, which unfortunately cannot always differentiate between *E. histolytica* and for example the commensal *E. dispar*. In patients with amoebic liver abscesses, stool microscopy has a poor sensitivity for detecting *E. histolytica*, ranging from 10 to 40%, whereas stool PCR, antigen-detection tests and PCR on urine or saliva are more sensitive and specific tests.

We will be discussing clinical, biochemical, radiological and endoscopic properties of a rare presentation of amoebiasis, demonstrating that early endoscopic evaluation minimizes diagnostic delay and facilitates early directed treatment.

Case report

A 50-year-old HIV-positive male was admitted at our hospital after experiencing severe cramps in the right iliac fossa during a period of four days. After these first abdominal symptoms he quickly developed watery diarrhea and spiking fevers up to 39.5°C.

We learned that the patient resided permanently in Cambodia with frequent inland trips, further evaluation of the patient's history revealed an asymptomatic chronic HIV-infection, with normal CD4-counts and low viral load. Anti-viral treatment was not deemed necessary provided that the patient continued his regular checkups with his infectious disease specialist. Physical examination showed a tender right iliac fossa and right upper quadrant, with laboratory tests showing an increased C-reactive protein (336 mg/L, upper limit

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of normal (ULN) 5,0 mg/l), elevated leucocyte count ($14,8 \cdot 10^9/L$, ULN 4.0-10.0) and increased alkaline phosphatase (148 U/L, ULN 36-126). Blood smears for *Plasmodium* spp. were negative, as were blood and stool cultures.

Computer tomography (CT) on day 2 identified two sharply defined, hypo dense lesions in the dorsal part of the liver and a larger lesion in the right part of the liver, both characterized by surrounding edema and peripheral rim enhancement. Furthermore a mass-like thickening of the caecal wall was identified (Figure 1), causing the radiologist to suggest a diagnosis of colorectal cancer with secondary necrotic liver metastases. However colonoscopy, performed on day 3, showed multiple, irregularly shaped, ulcerating lesions with edema and localized hyperemic mucosae at the caecum, with a larger lesion at the ascending colon (Figure 2). Biopsies and aspiration fluids were taken for further analysis, revealing multiple amoebae with erythrophagocytosis, followed by confirmation of *E. histolytica* infection by serum antigen detection.

Discussion

In our case we identified several risk factors for amoebiasis, such as residence in an endemic area, HIV-positivity, the male sex and an age of under 50 years, making amoebiasis more likely, whereas diabetes, jaundice, recent surgery and pulmonary symptoms would be more suggestive for pyogenic liver abscesses (8,9,10). Clinical symptoms cannot differentiate between amoebic liver abscesses and pyogenic abscess, as both cause right upper quadrant pain, hepatic tenderness and fever. Though liver abscesses caused by *E. histolytica* are mostly solitary abscesses situated in the right lobe, our patient developed three separate lesions, which is more frequently associated with pyogenic abscesses (10). Imaging furthermore identified a mass-like colon lesion suggestive of an amoeboma, a rare complication of *E. histolytica* infection, occurring in only approximately 1.5% of cases (11). However a simultaneous presentation together with liver abscesses and amoebic colitis, as presented in this case, might even be less frequent.

Finally we would like to stress the important differential diagnosis of amoebic colitis with inflammatory bowel disease. Ruling out amoebiasis in selected cases is imperative due to the potential devastating effects of corticosteroids on patients infected with *E. histolytica*, as wrong treatment may lead to development of a toxic megacolon or fulminant necrotizing amoebic colitis (12).

Treatment of amoebiasis is unique in a way that even large abscesses can be cured with just the use of antibiotics. Only patients with large abscesses or local complications can benefit from surgery or needle aspiration (3,13). In our case treatment with Metronidazol 500 mg three times daily and a luminal agent (Paromomycine) was initiated, showing a rapid clinical and biochemical response during the next few days. The patient was discharged after ten



Figure 1. — Computed tomography, sagittal image. Two sharply defined collections and a larger lesion located more inferiorly in the right liver lobe, both with surrounding edema and a peripheral rim. Furthermore a mass-like thickening of the caecum was identified with dimensions up to 30 mm.

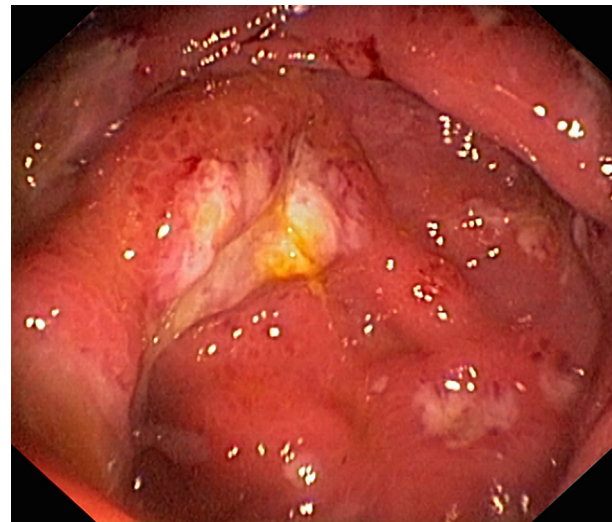


Figure 2. — Endoscopic view of the proximal ascending colon showing disseminated superficial mucosal ulcerations, a larger lesion with a central ulcer with surrounding edema and hyperemia: covered with friable yellow granulating tissue, edema and loss of vascular pattern. No ulcerations were seen in the remaining transverse and descending colon. Biopsies showed purulent material and several amoeba with erythrophagocytosis.

days, though unfortunately was lost to follow up before an ultrasound re-evaluation of his liver lesions could be performed.

This case highlights the diverse shapes amoebiasis can take in a single patient and illustrates the role of colonoscopy in minimizing diagnostic delay and facilitating early directed treatment. As travel to endemic

areas increases, *E. histolytica* remains an entity to be reckoned with.

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