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**Diop A**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

**Ka I**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

**Faye AC**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

**Diop PS**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

**Fall B**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

**Corresponding Author:**  
**Diop A**  
General Surgery Department,  
General Hospital of Grand-Yoff,  
Dakar, Senegal BP 3270 Dakar,  
Senegal

## Amoebic liver abscess: About an observation

**Diop A, Ka I, Faye AC, Diop PS and Fall B**

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### Abstract

Amebiasis is a parasitic pathology responsible for a dysenteric syndrome and extra-intestinal complications. It's caused by infection with an amoeba, *Entamoeba histolytica*, whose geographical distribution is cosmopolitan, but which is particularly prevalent in the tropics. Only a minority of infections are symptomatic and some of them can lead to extra-intestinal complications, the main one being hepatic amoebiasis. We report the case of a 38-year-old patient from central Senegal who developed an amoebic liver abscess treated by percutaneous drainage. The epidemiological, diagnostic and therapeutic aspects of amoebic abscesses are discussed.

**Keywords:** *Entamoeba histolytica*, amebiasis, hepatic abscess

### Introduction

*Entamoeba histolytica* is the causative agent of amoebiasis. This protozoan has a global geographic distribution, but infection is more common in countries where hygiene is low, especially in tropical regions. Transmission occurs by ingestion of cysts present in contaminated food and water. However, cases of transmission via oro-anal sexual practices or via inoculation by introduction of endoscopic material into the colonic pathways are also reported [1]. Infection is symptomatic only if the trophozoites adhere and penetrate through the colonic mucosa. The World Health Organization (WHO) estimates between 30 and 50 million people infected with *E. histolytica* worldwide, of which 100,000 deaths are reported annually, placing this pathology in second place for deadly parasitic infections after malaria [2, 3]. Most people infected with *E. histolytica* are asymptomatic and only 4 to 10% of them develop clinical manifestations in the months or years after infection. The evolution is good under adequate treatment. On the other hand, in case of inappropriate treatment, sequelae in the form of chronic colitis or complications, the major form of which is hepatic abscess, may occur [4, 5]. We report the case of a 38-year-old patient from central Senegal who developed an amoebic liver abscess treated by percutaneous drainage.

### Clinical Case

Mr. C. T SALL presented to the surgical emergencies for right thoracic pains with a respiratory difficulty that had been evolving for a month, associated with a fever for 15 days. He did not report nausea or diarrhea. The physical examination noted a patient in poor general condition, with well-colored conjunctival mucosa without jaundice. A sensitive mass of the right hypochondrium was noted.

A thoracoabdominal CT scan showed a hypodense hepatic lesion of 146 mm long axis encapsulated at segments V, VI, VII, VIII with a clear enhancement of the limits (Figure 1). Biology found a nonspecific inflammatory syndrome and moderate cytolysis. Percutaneous drainage carried out on the day of admission had evacuated 1500 cc of chocolate pus (Figure 2). The patient was put on metronidazole 500 mg 3 times daily for 10 days. The removal of the drain was done on day 5 after satisfactory CT scan (Figure 3). The evolution was favorable and the return home authorized to day 6 post drainage. Amoebic serology returned positive.

### Discussion

Hepatic abscess is the most common extraintestinal manifestation of infections caused by *E. histolytica* [4]. It develops in less than 10% of cases of intestinal amoebiasis. Hematogenous dissemination is caused by the crossing of colonic mucosa and submucosa by amoeba trophozoites which, due to their cytolytic and apoptotic properties, will become embolized in

portal venules by creating infarction in infected areas [5]. Until a little over a century ago, liver damage was almost always fatal, but with the introduction of effective treatment and rapid diagnosis, mortality dropped to 1-3% [6]. Some patients also have concomitant colitis, but most have no intestinal symptoms at the time of liver abscess [7], as in our patient's case.

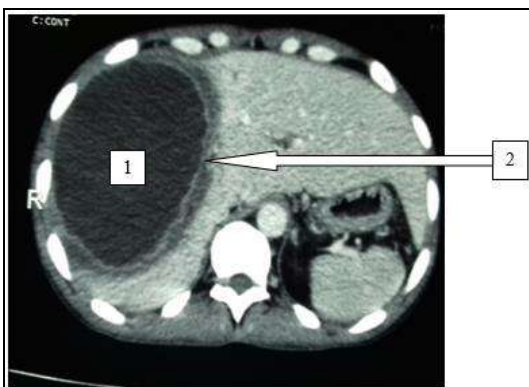
From the epidemiological point of view, the species *E. histolytica* has a cosmopolitan geographical distribution, but it is more frequent in tropical and intertropical zone than in temperate region. The largest foci of infection are found in Central America, South America, Africa and the Indian subcontinent [5].

Hepatic amoebiasis should be suspected in any patient living in endemic areas who presents with fever and pain in the right upper thoracic quadrant. These are the 2 reasons for consultation of our patient and the 2 major symptoms found in a beninese series involving 42 observations [8]. Sometimes coughs and rales can also be seen at the base of the right lung. Biologically, leukocytosis with neutrophilia without eosinophilia, moderate anemia, increased alkaline phosphatase, and elevated erythrocyte sedimentation rate are generally found [9, 10].

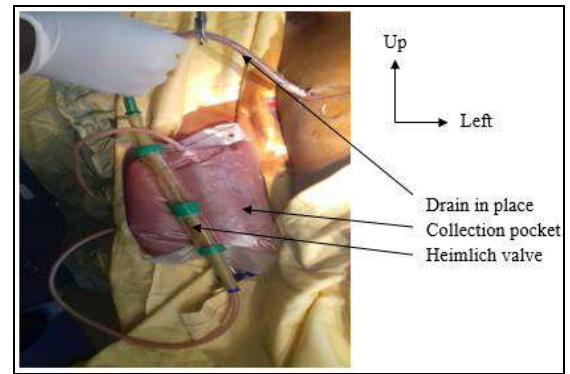
Our patient had a significant inflammatory syndrome but no associated cholestasis, with liver disturbances usually minimal or absent. On the other hand, the appearance of the chocolate brown liquid is typical of amoebic abscesses and is related to hepatocyte necrosis.

The reference biological diagnosis is based on serological tests with specific antibodies *E. histolytica*. These serological tests are very sensitive (> 94%) and specific (> 95%), but have certain drawbacks, namely that they often require repetition to make the diagnosis [11].

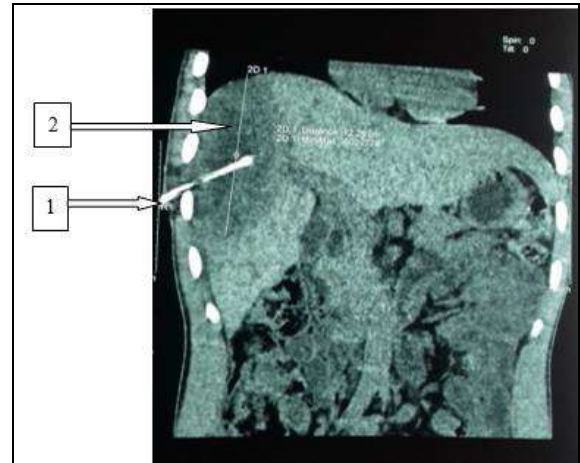
In terms of imaging, the thoraco-abdominal CT is the reference radiological examination with performance well above that of ultrasound. It allows to evaluate the number of abscesses, their size and their location [7]. On the other hand, the puncture can also highlight the presence of disinfecting bacteria that can sometimes complicate the amoebic abscess by embolization of intestinal bacteria. The usual treatment combines for 10 days metronidazole, a tissue amoebicide, which eliminates intrab tissular forms, followed by 7 days of paromomycin, a luminal amoebicide for the eradication of parasitic colonization [4]. Only rare examples require surgical treatment [5]. In our patient's case, the rapid management allowed a favorable evolution of the symptoms. In this case, the concept of endemic, the suspect radiological image, the chocolate appearance of the pus and the positive serological results confirmed the diagnosis of amoebic liver abscess and quickly started the appropriate treatment with a favorable evolution after 5 days.



**Fig 1:** CT thoracoabdominal: hypodense liver injury (1), peripheral enhancement (2).



**Fig 2:** Percutaneous drainage of abscess (chocolate pus).



**Fig 3:** Control CT: (1) drain; (2) hepatic parenchymal scar (old abscess bed)

## Conclusion

Amoebic liver abscess is a serious disease that requires a rapid diagnosis, which can be achieved by the combination of a CT with injection. The treatment should be combined for 10 days with metronidazole and percutaneous drainage for collections larger than 10 cm in diameter. Surgery is exceptionally required and is limited exclusively to failures of percutaneous treatments.

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