

Amoebic Liver Abscess Associated with Viral Hepatitis C in an Elderly Patient

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Abstract

Case Report

Introduction: Amoebic liver abscess is a suppurative collection of parasitic origin. The causative organism is usually the ubiquitous *Entamoeba histolytica*. In Mali, a study reported a hospital incidence rate of 2.4%. Radiological exploration of the liver has made a major contribution to improving early diagnosis and management. Treatment involves metronidazole and evacuation of the suppurative collection. We report the case of a 71-year-old patient who developed an amoebic liver abscess associated to viral hepatitis C with a very high viral load. The diagnosis was made on the basis of clinical, biological and radiological signs, amoebic serology and the characteristic of the pus. Antiparasitic treatment, drainage of the abscess and antiviral treatment resulted in a good clinical outcome. The epidemiological, diagnostic and therapeutic characteristics of amoebic abscesses are discussed. **Conclusion:** Hepatic amoebiasis is common. Diagnosis is guided by the FONTAN triad, biology and imaging. The chocolate-coloured characteristic of the pus and the serology confirm the diagnosis. Treatment is medical and instrumental (ultrasound-guided). Association with hepatitis C infection appears to be rare.

Keywords: Amoebiasis, liver abscess, hepatitis C, elderly patient, Gabriel Touré University Hospital.

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INTRODUCTION

Amoebic liver abscess is defined as a suppurative collection of parasitic origin, located within the hepatic parenchyma, excluding suppurations located in pre-existing cavities. The causative organism is usually the ubiquitous *Entamoeba histolytica*. It is a very common disease in tropical environments [1]. People of low socio-economic status are more likely to be affected [2].

In Europe, it is an imported disease due to immigration and tourism. The incidence varies between 1 and 15 per 100,000 per year according to European and American authors [3].

Hepatic localisation is thought to affect 1-20% of people with invasive amoebiasis [2], and up to 25% in South-East Asia. It is responsible for 1.9% of hospital admissions in Abidjan [2], 1.3% in Bujumbura [2] and 0.5% of adults in Karachi [2].

In Mali, a study carried out in the hepatogastroenterology department of the Gabriel Touré University Hospital reported a hospital admission rate of 2.4% [4]. Advances in radiological exploration of the liver have made a major contribution to improving its early diagnosis, and hence to its effective treatment with drugs and radiology [2]. Etiological treatment requires metronidazole and evacuation of the suppurated collection. Evacuation may be surgical or percutaneous with ultrasound or CT guidance [5, 6].

Hepatitis C is an inflammation of the liver caused by the hepatitis C virus. In 2019, an estimated 58 million people worldwide are chronic carriers of the hepatitis C virus, with around 1.5 million new infections occurring each year [7].

There are also 10 million chronic infections in the South-East Asia Region and a further 10 million in the Western Pacific Region. Finally, there are nine million chronic infections in the African Region and five million in the Region of the Americas [7].

Antiviral drugs cure more than 95% of people infected with the hepatitis C virus, but access to diagnosis and treatment is limited [7].

These two infections, viral and parasitic, share the same geographical areas of high prevalence. However, we have not reported any relationship between hepatitis C and amebic liver abscess in the literature.

We report a clinical case associating a hepatitis C infection and an amebic liver abscess in the internal medicine department of the CHU Gabriel Touré.

CLINICAL OBSERVATION

This 71-year-old patient, a resident of Timbuktu with no known medical or surgical history, was seen in consultation for persistent hiccups for which he was taking a traditional treatment with no improvement. On interrogation, the patient was found to have an unquantified fever associated with profuse sweating, anorexia, weight loss, a history of bloody diarrhoea and hepatalgia. Two weeks after diarrhoea, he reported the moderate right hypochondrium pain with no triggering factor, which was relieved by the usual analgesics.

Given the persistence of the clinical picture, especially the hiccups, he consulted the internal medicine department of the Gabriel Touré University Hospital for treatment.

Physical examination revealed conjunctival jaundice and painful soft hepatomegaly.

The results of the paraclinical examinations showed:

- The blood count showed a predominantly neutrophilic hyperleukocytosis and the rest were normal;

- Transaminases (ASAT 32.3 IU/l and ALAT 24.6 IU/l) normal, Gamma-glutamyl-transpeptidase) 298 IU/l high, alkaline phosphatases 309 IU/l high, total bilirubin 1.04 mg/l normal, conjugated bilirubin 0.71 mg/l normal and Prothrombin (PT) 64% low.

Negative HBS antigen, positive anti-HBS antibody at 100 IU/l, negative HBe antigen, positive total anti-HBC antibody and undetectable hepatitis B viral load in favour of a cured B viral infection;

- Anti-HVC antibody (hepatitis C serology) positive, hepatitis C viral load detectable at 307,600 copies/ml suggesting progressive viral hepatitis C.
- Strongly positive amoebic serology at 1:2560 in favour of an amoebic infection of the liver.
- Abdominal CT scan revealed a voluminous right hepatic collection measuring 56.2 mm/47.7 mm in segments V, VI and VIII, the characteristic features of which were consistent with a probable amoebic origin.
- The echo-guided puncture brought back 250cc of purulent liquid of chocolate aspect.

On the basis of all the clinical and paraclinical findings, we made the diagnosis of an amebic liver abscess on viral hepatitis C.

For the treatment, the patient underwent an ultrasound-guided puncture which brought back 250 cc of chocolate-like purulent liquid.

In addition to the ultrasound-guided evacuation puncture, the patient was prescribed metronidazole 500 mg at a dose of 1.5 g per day in 3 doses for 10 days.

For the treatment of hepatitis C, he received Velpatasvir 100 mg and Sofosbuvir 400 mg, one tablet per day for three (3) months.

Progress was marked by improvement in hiccups, anorexia, right hypochondrium pain and disappearance of jaundice.

A follow-up abdominal ultrasound noted a regression of the collection. The control hepatitis C viral load after three month of treatment was undetectable.

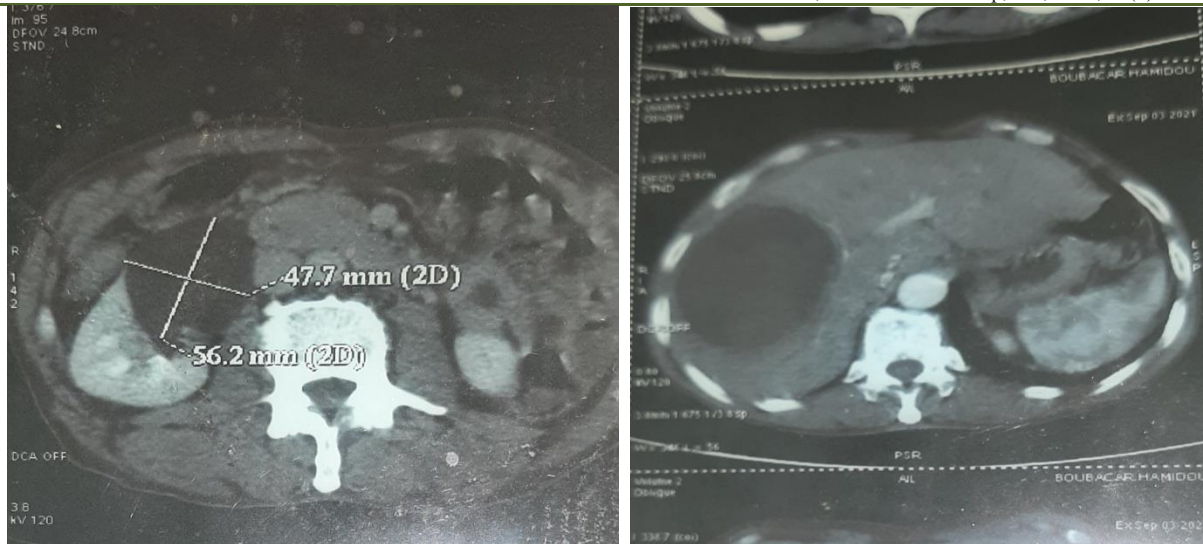


Figure 1: Hepatic CT showing voluminous right hepatic collection of 56.2 mm /47.7 mm

COMMENT AND DISCUSSION

We report the case of a 71-year-old male subject with no previous history of amoebic liver abscess and hepatitis C viral infection. This is probably the first case reported in Malian medical context.

In the literature, these are two infections sharing the same geographical areas of high prevalence [1, 7].

The medical risk factors for the development of liver abscesses are chronic alcoholism, chronic liver disease, especially if associated with a bilio-digestive anastomosis, immunodepression or diabetes [8].

The predominance of amoebic abscesses in low socio-economic group is classic. This is explained by poor hygiene conditions, which increase faecal peril. Immune disorders have been incriminated, but studies of humoral or cell-mediated immunity give discordant results [9]. The liver is the most frequent extra-intestinal site [8].

Prevalence is high in sub-Saharan Africa, Central and South America and India [8].

The predominance of males reported by Rossi *G et al.*, (ten times more males than females) [8] and by Dembélé DK in Mopti [10], 78.1% males compared with 21.9% females, is similar to our clinical case.

The reasons are not well known, but a relationship between female sex hormones and immune response has been suggested [11].

The age of our patient, 71 years, was higher than the average age reported by Dembélé DK in Mopti for adults, which was 35 ± 10 years [10], but superposable to that reported by G Rossi, which was 50-60 years in the 2000s [8].

Clinically, our patient presented with fever, profuse sweating, anorexia, weight loss, bloody diarrhoea and hepatalgia. Elsewhere, jaundice and hepatomegaly are seen. The mechanism of jaundice is complex: decreased biliary excretion, compression of the hepatic pedicle or intrahepatic bile ducts by a large abscess or multiple large abscesses, hepatocellular insufficiency due to purulent melting of the liver [12].

All these signs are not specific to amoebic liver abscess and may be due to hepatitis C infection. However, in the literature, Lafont E *et al.*, reported an alteration in general condition with febrile hepatica with a sub-acute evolution. [13], Rossi G *et al.*, in 2016 reported fever (73-93%), shivering (43-80%), right hypochondrium pain (45-80%), painful hepatomegaly (30-50%), jaundice (11-60%), vomiting (20-40%), weight loss (14-50%), asthenia (25%), dyspnoea (10-17%), cough (14%) and diarrhoea (8-17%) [8]. Dembélé DK also reported fever (90.6%), jaundice (43.8%), anorexia (34.4%), abdominal pain (87.5%), nausea and vomiting (56.3%), hepatalgia (100%) and hepatomegaly (81.3%) [10].

Biologically, hyperleukocytosis, elevated Gamma GT (Gamma-glytanyl-transpeptidase), elevated alkaline phosphatases and normal transaminases have also been reported in the literature. In their study, Ho G *et al.*, observed a hyperleukocytosis with a predominance of neutrophils (76%). Liver transaminase and alkaline phosphatase values were also normal [14]. A study by G Rossi and colleagues found hyperleukocytosis (68%), elevated alkaline phosphatases (66-71%) and gamma-glutamyl transferases (81%), cytolysis with a predominance of alanine amino transferases (53%), and hyperbilirubinaemia (38-53%) [8].

On abdominal CT, we found a voluminous right hepatic collection in segments V, VI and VIII. Ho

G *et al.*, observed a hypodense hepatic lesion of 67 mm long axis encapsulated and partitioned in segment IV with moderate enhancement of the limits and partitions [14]. Abdominal CT lesions are predominantly single in the majority of cases - 81.5% in a study of 200 cases in India in 1986 and 77.4% in Thailand in 2002 [2]. The lesion frequently predominated in the right lobe in 74.2% of patients [2].

Amebic serology was strongly positive in our case; Dembélé DK had reported positive amebic serology in 90.6% of patients [10]. Dembélé DK in Mopti reported that the pus had a chocolate characteristic in 96.5% of patients [10].

The usual treatment combines metronidazole, a tissue amoebicide which eliminates the intra-tissue forms, for 10 days, followed by 7 days of paromomycin, a luminal amoebicide for the eradication of parasite colonization. Only rare cases require surgical treatment [15]. In our case, we used metronidazole for ten days combined with ultrasound-guided drainage of the abscess with improvement and drying of the abscess after ultrasound control.

Hepatitis C infection was treated with a combination of Velpatasvir 100 mg +Sofosbuvir 400 mg, one tablet per day for three (3) months. This resulted in an undetectable viral load.

This clinical case, associating an amoebic abscess of the liver and a viral infection with hepatitis C, does not report any epidemiological, clinical, biological, radiological and therapeutic particularities compared to the data of the literature.

CONCLUSION

Hepatic amebiasis is common. It is a disease linked to faecal peril and is endemic in areas with low levels of hygiene. The symptoms (FONTAN triad), the biological results, the radiological images and the chocolate-coloured characteristic of the pus made it possible to orientate the diagnosis and the appropriate treatment, and avoid any complications. Treatment is essentially medical and instrumental (ultrasound-guided). Its association with hepatitis can be a factor of poor prognosis. Prevention is the only way to reduce the prevalence of this faecal peril disease.

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