

## Case Report

### Visceral Amebiasis of the Elderly: A Report About Two Cases Observed In the Department Of Internal Medicine and Geriatrics at Treichville University Hospital

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#### Abstract

#### Introduction

Visceral amebiasis of the elderly is rare even in areas of high endemicity such as the Ivory Coast. Its atypical clinical presentation leads to the use of sensitive and specific serological tests as the best diagnostic means.

#### Clinical case

We report 2 cases of hepatic amebiasis in two septuagenarians with pleural extension in one and Pleuropulmonary in the other. The abscessed hepatic formations were found in both cases, one with a pleural effusion syndrome associated with an abscess of the lung; in the other only a pleural effusion syndrome. These patients had had an ultrasound-guided pleural and hepatic puncture. Diagnostic confirmation is provided by the amoebic serology (latex and / or indirect immunofluorescence) highly positive in both cases.

The healing obtained by the initiated treatment of nitroimidazole and tissue amebicides also helped confirm the diagnosis.

#### Conclusion

A satisfactory geriatric assessment in elderly carriers of visceral amebiasis can lead to diagnostic errors. Serological tests may help correct the diagnosis and an appropriate management can effectively reduce mortality.

**Key words:** Visceral Amebiasis; Elderly; Serological Tests

#### Abbreviations

ADL: Activities of Daily Living;

AFP: Alpha-Foeto-Protein;

ESR: Erythrocyte Sedimentation Rate;

GDS: Geriatric Depression Scale;

IADL: Instrumental Activiting of Dailing Living;

IHA: Indirect Hemagglutination;

IIF: Indirect Immuno-Fluorescence;  
 MNA: Mini Nutritional Assesment;  
 NV:NormalValue

## Introduction

Amebiasis is a cosmopolitan parasitosis. Approximately 10% of the world's population is chronically infected with *Entamoeba histolytica* [1]. The majority of this population lives in the tropical zone [2]. It is the third leading cause of death due to a parasitic infection throughout the world after malaria and schistosomiasis [3]. In only 1% of cases the infection evolves towards the formation of abscesses, generally hepatic, and more rarely pulmonary or cerebral: it is visceral amebiasis [4].

Hepatic and Pleuropulmonary amebiasis when it occurs in the fragile subject such as the elderly in an endemic zone, has an atypical clinical presentation [5] making its diagnosis difficult. As a result, it is the third cause of death after 65 years [6, 7]. However, morphological examinations supplemented by specific and sensitive serological tests such as indirect immunofluorescence (IIF), indirect hemagglutination (IHA) and immunoenzymatic reactions (ELIZA) make it possible to make the diagnosis of certainty.

Studies of visceral amebiasis of the elderly in hospitals are rare. We present, through two observations, the diagnostic difficulties observed even in a region with high amoebic endemicity such as the Ivory Coast.

## Observations

### 1<sup>st</sup> clinical case

Mr. F, aged 71 chronic inactive carrier of hepatitis B virus, has a known arterial hypertension treated with natrixam® combination therapy (indapamide and amlodipine) since 2013. For 6 weeks he has presented a febrile right basi-thoracic pain exacerbated by a dry cough. He was treated as an outpatient in the clinics of the place by various antibiotics not identified by the patient. He is hospitalized in the internal medicine department for dyspnea.

On admission, we noted a blood pressure of 135/80 mmHg, a heart rate of 76 c/min, a respiratory rate of 25 c /min and a temperature of 38.0 c. The rest of the physical examination found an anemic syndrome, a right fluid pleural effusion syndrome with a right hypochondriac sensitivity associated with sub-jaundice. The pleural aspiration resulted in a non-fetid pyohematic fluid. The standardized geriatric assessment made with the usual autonomy tests of the ADL and IADL scales, the use scores of tools of daily life, Mini-GDS and the MNA was satisfactory. We Noted at the biology an anemia at 10g/dl, a leukocytosis at 14,000/mm<sup>3</sup>. The CRP = 158mg/l and an ESR = 96mm at the first hour. The bacilloscopy was negative on di-

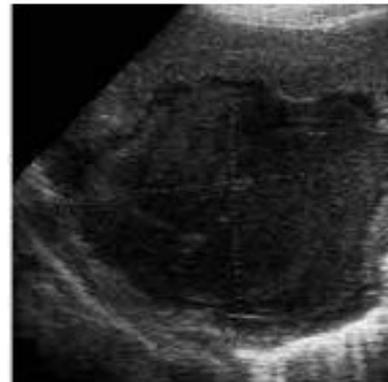
rect examination and culture. The alpha fetoprotein was at 24 ng/l.

The front chest x-ray showed opacity of fluid density filling the right costodiaphragmatic cul-de-sac and an elevation of the homolateral diaphragmatic dome (Figure 1.).



**Figure 1.** Front chest x-ray: elevation of the right diaphragmatic dome and a filling of the right diaphragmatic cul-de-sac.

The abdominal ultrasound showed an abscessed formation of segment III of 481 ml volume associated with pleurisy (Figure. 2).



**Figure 2.** Abdominal ultrasound: in sagittal section showing a hypoechoic hepatic mass with fine regular contours suggestive of an abscess.

Puncture of the hepatic abscess brought back non-fetid chocolate brown pus. The search for amoeba and banal germs in the pleural and hepatic fluid was negative. The amoebic serology was positive by latex and IFI at 1/240 Threshold 1/100). Parasitological examination of stools revealed *Entamoeba histolytica* cysts.

Treatment with metronidazole 1.5 g/day associated with pleural evacuating and ultrasound-guided punctures of hepatic pus, the clinical, biological and radiological evolution was favorable. In summary, it was a pleural and hepatic amebiasis in a septuagenarian carrier of chronic non-active hepatitis B.

## 2<sup>nd</sup> clinical case

Mr. O.A, aged 73, smoker of 18 cigarette packs/year, with a history of prostatectomy, has been admitted to the internal medicine department for a long-term fever that has been developing for three weeks. He complained of diffuse chest pain associated with a cough with purulent sputum.

The clinical examination found a right basi-thoracic pleural effusion syndrome with a sensitivity of the homolateral hypochondrium, discrete folds of dehydration associated with splenomegaly. The ganglionic areas were free. The rest of the physical examination as well as the standardized geriatric assessment were without any particularity.

Microcytic anemia associated with a discrete hyperleukocytosis predominantly neutrophilic was noted in biology. ESR = 78mm at the first hour. Hypoalbuminemia (35 g/l) was noted. The thoracic X-ray showed a right basal water image. Abdominal ultrasound showed a large hemorrhagic irregular tissue-necrotic mass associated with an intraperitoneal fluid effusion suggesting a tumoral process (Figure 3).



**Figure 3.** Abdominal ultrasound in longitudinal section showing a tissue-necrotic mass of the liver with irregular contours.

The thoracoabdominal CT scan evoked an abscessed mass of the liver associated with a right lung abscess with contact atelectasis and homolateral pleurisy (Figure 4).



**Figure 4.** Abdominal CT: axial section with injection of contrast agent: hypodense hepatic mass with annular enhancement compatible with a hepatic abscess.

The search for Koch bacillus in sputum was negative on direct examination and culture as well as sputum PCR. The ultrasound-guided exploratory and evacuating hepatic puncture brought back a non-fetid chocolate brown pus. The alpha foeto-protein was normal (NV < 6ng/l). The amoebic serology was positive by latex and IFI at 1/360 (threshold 1/100). The parasitological examination of stools revealed *Entamoeba histolytica* cysts. The outcome was favorable with metronidazole treatment 1.5 g/day for 15 days, combined with two (02) ultrasound-guided evacuating puncture of hepatic pus. In total, it was a hepatic and pleuropulmonary amebiasis in an elderly patient.

## Discussion

Hepatic and Pleuropulmonary amebiasis is rarely observed and described in the African elderly. Indeed, most of the series concern the young adult, between the age from 20 to 40 years [8]. The complicated hepatic form of pleuropulmonary involvement is the most frequent extra-intestinal manifestation of infections caused by *E. histolytica* [9]. This is especially true in subjects at risk such as homosexual males, people with poor faecal hygiene, the mentally ill and the elderly [9,10]. In the elderly, in an endemic region such as the Ivory Coast the incidence of visceral amebiasis should be high. However, it is under diagnosed because the clinical presentation in the elderly is atypical [5]. In our study, clinically the warning signs were pleuropulmonary since our two septuagenarian patients had voluminous hepatic abscesses that required drainage by ultrasound-guided puncture. The hepatic abscess of the elderly according to Bosan can take various aspects ranging from acute intestinal occlusion to chronic sub-occlusion painful or not [2]. In our study, the evolution of visceral amebiasis was chronic at the origin of diagnostic errors despite a satisfactory geriatric assessment whereas in young patients only 10% of them present a chronic form, difficult to diagnose [2]. In general, the infection is more severe in the elderly [11]; this is the case in all our patients who have presented abscessed formations of the liver.

Pleuropulmonary involvement generally follows liver involvement. The infection reaches the lungs very often by extension of contiguity from the hepatic site [8]. It can be done by rupture of the hepatic abscess through the diaphragm [11,12]. Ibrara-Pérez also described in 1981 a series of 501 cases of intra-thoracic complications of the amoebic abscess of the liver [13]. This so-called trans-phrenic approach remains the most frequent and explains the clear predominance of the right thoracic localizations. More rarely the rupture of supra hepatic veins allows access of the amoeba to the right heart and then to the lung, it is the pathway called vascular [12]. These different mechanisms could explain the occurrence of amebiasis observed in our study.

Visceral involvements of amebiasis produce a clinical picture that depends on the involved organ. However, persistent py-

rexia may be the only clinical manifestation of the condition in the elderly. Unexplained fever or a hepatic fluid collection with nonspecific symptoms could make the diagnosis difficult [2]; this is case number 2 of our study, which has a lung abscess. Indeed, amoebic pneumopathy can evolve towards the abscess of the lung in the absence of effective treatment [14].

The incidence of cancer increases with age [15]. In the senior the search for a tumoral process must be essential. It is case number 01 where a hepatocellular carcinoma was suspected in the presence of the increase of the rate of Alpha-Foeto-Protein (AFP) especially as the patient is an inactive carrier of HBV. Since an abscessed hepatic tumor is not excluded the regular and periodic AFP assay will help distinguish the hepatocellular carcinoma from the hepatic abscess.

In both cases, amoebic serology helped confirm the diagnosis. Regarding serological tests, antibodies are detected in 85 to 95% of patients [14,16]. IFI is a specific and sensitive technique. Cases of false positivity are rare and can be observed in liver abscesses with anaerobic germs and secondary or primary liver cancer [17]. HAI and ELISA have sensitivity close to 100%. They remain positive for several years [18]; however these reactions cannot be used as a monitoring test.

Thus the diagnosis of visceral amebiasis was accepted on the basis of a bundle of arguments including the chocolate brown appearance of the hepatic pus, the positivity of the serological tests, and the favorable evolution under treatment.

Its treatment is primarily medical and is based on the association of a tissue amebicide (Metronidazole) and a contact amebicide (Hydroxyquinoleine) [19]. In our both cases, we used non-specific antibiotic therapy, which probably allowed us to reduce the length of hospitalization stay. The performance of ultrasound-guided percutaneous drainage of the hepatic suppurative cavities allowed a rapid evolution towards healing [20].

## Conclusion

The various techniques available for serological diagnosis remain the best means for a rapid and adequate management after a good geriatric assessment. Unfortunately, these serological tests are expensive and are not available everywhere in Africa. The treatment of visceral amebiasis is based on nitroimidazoles supplemented by contact amebicides.

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