

CASE REPORT

Amoebic Liver Abscess in Newly Detected HIV Infection*Hardik Patel¹, Virendra C. Patil^{1*}, Akshay Kulkarni¹, Amol Bhoite²**¹Department of Medicine, ²Department of Radiology, Krishna Institute of Medical Sciences, Karad-415110 (Maharashtra) India***Abstract:**

Amoebic Liver Abscess (ALA) is a most common extraintestinal manifestation of amoebiasis which is most commonly present with high grade fever with right upper quadrant abdominal pain. Here we present a case of 32 year male patient newly diagnosed as People Living with HIV/AIDS (PLHIV) with ALA. Patient was treated with Metronidazole (500 mg 8 hourly) and therapeutic drainage.

Keywords: Amoebic liver abscess, People Living with HIV/AIDS

Introduction:

Liver abscesses are divided into pyogenic and amoebic liver abscess. Amoebiasis is an infection caused by intestinal protozoa *Entamoeba histolytica* (*E. histolytica*). *E. histolytica* was first described by Losch in 1875 [1]. About 90% of patients are asymptomatic and remaining 10% show variety of clinical syndromes. Amoebic Liver Abscess (ALA) is the most common extraintestinal manifestation of amoebiasis. ALA usually presents as an acute illness with right upper quadrant pain, fever and tender hepatomegaly. Poor hygiene, malnutrition, immunosuppression and oral anal sexual practise increases risk for developing ALA [2]. Patients with Human Immunodeficiency Virus (HIV) represent one of the highest risk for invasive amoebiasis. HIV infected patients with invasive amoebiasis are predominantly men who have sex with men [3].

Case Report:

A 32 year old male patient was admitted with complains of high grade fever which was intermittent in nature and right upper quadrant abdominal pain since 15 days. Patient also had weight loss of about 5 kg in the previous one month. There was no history of cough, night sweats, loose stools, vomiting and headache. On admission, patient was febrile, vitals were stable with tender hepatomegaly. Laboratory parameters at the time of admission are shown in Table 1.

Patient underwent non invasive imaging. Ultrasound (USG) abdomen showed poorly defined hypoechoic lesion (3.3 × 4.8 cm) with irregular, lobulated hyperechoic margins and Contrast Enhanced Computed Tomography (CECT) abdomen had hypodense oval lesion measuring (4.5 × 4 × 4.1 cm) in segment IVa of liver with enlarged liver (15.7 cm).

Patient underwent ultrasound guided percutaneous drainage of solitary liver abscess with all aseptic precautions and informed written consent. Around 60 ml of abscess fluid was removed and examined for cytology, staining and Adenosine Deaminase (ADA). (Table 2) Subsequently patient's serum IgG level for amoeba was sent which was positive for *Entamoeba histolytica* (value 5.85, ref. value < 0.90).

Table 1: Laboratory Parameters at Time of Admission

Parameters	Value
Haemoglobin	13.4 g/dl
Total Leukocytes Count	11200/ul
Platelet Count	165000/cumm
Prothrombin Time (PT), International Normalised Ratio(INR)	1.3
Urine examination	Normal
Erythrocyte Sedimentation Rate (ESR)	70 mm/hr
Rapid Malaria Test (RMT)	Negative
Dengue Serology (NS1 antigen, IgM & IgG antibody)	Negative
WIDAL	Negative
Blood sugar level	88 mg/dl
Blood urea	43 mg/dl
Serum creatinine	0.7 mg/dl
Serum sodium	137 mEq/L
Serum potassium	4.6 mEq/L
Liver Function Test (LFT)	Normal
Serum Albumin	3.3 g/dl
HIV ELISA	Reactive
HbsAg, HCV ELISA	Non reactive
CD4 count	215 cells/microlitre



Fig. 1a: USG Abdomen



Fig. 1b: CECT Abdomen

Table 2: Abscess Fluid Examination

Investigation	Value
Cell cytology	TLC 6500 (N 65, L 35)
KOH mount	Negative for fungal elements
Adenosine Deaminase (ADA)	6.59 (normal)
Ziehl-Neilsen (ZN) stain	Negative
Culture	Sterile

Patient was diagnosed as having ALA and HIV infection. Patient was treated with IV Metronidazole 500 mg 8 hourly and Ceftriaxone 1g 12 hourly for 10 days and percutaneous ultrasound guided therapeutic abscess drainage (around 60 ml) with informed and written consent. Patient's fever and abdominal pain subsided after 48 hours of starting metronidazole and improved significantly. On discharge patient was prescribed Anti Retroviral Therapy (ART) and Tablet Iodoquinol (650 mg 8 hourly for 20 days and was asymptomatic on follow up after 1 month.

Discussion:

ALA develops in 10% of patients who develop amoebiasis. ALA is more commonly seen in young adults [3]. ALA usually presents with fever and right upper quadrant pain but sometimes it can

be presented with right shoulder pain. ALA most commonly presents over right lobe of liver as a single solitary lesion. Wu *et al.* had reported diagnostic criteria for ALA which is shown in Table 3. Our patient had high grade fever with right upper quadrant pain and imaging study showed abscess with serology positive for *E. histolytica*. Studies showed use of Metronidazole (750 mg 8 hourly) with Iodoquinol (650 mg 8 hourly) for treating ALA [6].

Shuian *et al.* noted that those causative organisms are same in both HIV infected patient and non HIV patient for developing liver abscesses. It is believed to be dysregulation of T cell activity in patient with HIV for developing ALA. Study also showed that clinical feature is same in both group patients [3].

Table 3: Criteria for Diagnosis of ALA

Clinical symptoms like fever, chills and abdominal pain
Radiological findings of liver abscess on ultrasound or computed tomography
Serology positive for <i>E. Histolytica</i>
Negative bacterial culture of liver abscess aspirate
Response to Metronidazole
History of travel to endemic area

In a study by Wiwanitkiton, 62 patients with HIV infection had shown less frequently fever and abdominal pain occurred with lower WBC count, AST and ALT levels (due to reduced inflammatory response related to HIV) and high IHA titre noted[4]. Studies done on CD4 count in HIV infected patient having ALA shows range of CD4 count between 14 to 798/ul but in 95% of patients CD4 count is between 200 to 349/ul [3,4]. In our case CD4 count was 215/ul. A study by Wuerz *et al.* on review of ALA for clinicians in nonendemic setting reported that serologic test by enzyme linked immunosorbent assay has a sensitivity of 94% and specificity of 95%. They also reported gold standard treatment for ALA which consists of Metronidazole (750 mg 8 hourly) for 7 to 10 days followed by luminal amebicide [7]. Wuerz *et al.* had given differential points between ALA and pyogenic liver abscess which were similar to those given by Wiwanikit [4, 7] (Table 4).

The most common complication of ALA is pleuropulmonary involvement which manifests as sterile effusion and rupture into pleural cavity. Other complications are rupture of abscess into

peritoneum and pericardium. Cerebral involvement into ALA occurs in < 0.1% patients [1]. In our case patient was treated with Metronidazole (750 mg 8 hourly) and Ceftriaxone (1 gm 12 hourly). Patient improved well with above treatment and did not have any complication. Our patient was discharged on luminal antiamebic (Iodoquinol 650 mg 8 hourly), anti retroviral therapy (Tenofovir 300 mg, Lamivudine 150 mg and Efavirenz 600 mg) and advised for regular follow up.

Conclusion:

As ALA is the most common extraintestinal manifestation of amoebiasis which sometimes presents as only fever, hence one should keep in mind as a differential while evaluating Fever of Unknown Origin (FUO). ALA presents as initial manifestation for more than half of HIV infected patients. Hence one must screen for HIV in ALA. Early diagnosis and treatment in ALA has good prognosis. Preventive measures for amoebiasis include adequate sanitation and eradication of cyst carriage because an asymptomatic carrier may excrete up to 15 million cysts per day.

Table 4: Comparison between Amoebic and Pyogenic Liver Abscess

Parameters	Amoebic Liver Abscess	Pyogenic Liver Abscess
Sex	Males	No gender preference
Age at presentation	Young	Old
History of travel	Common	Uncommon
Underlying hepatobiliary condition	Uncommon	Common
Abscess	Single	Multiple
Hypoalbuminaemia	Common	Uncommon
Elevation of right hemidiaphragm	Common	Uncommon
Amoebic serology	Present	Absent

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