

AMOEBIC LIVER ABSCESS: A DIAGNOSTIC DILEMMA IN THE ELDERLY

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Abstract

A 63-year old man presented with a 2-year history of progressive abdominal swelling with non-specific symptoms and signs. He visited several hospitals, where no diagnosis could be made for about 2 years and all therapeutic options given were ineffective. The appearance of an elevated right hemi diaphragm on chest X-ray, a single well defined area of Sonolucency with a thin edged border on ultrasound and a positive amoebic precipitin led to a diagnosis of amoebic liver abscess. Radiological intervention through ultrasound guided aspiration combined with medical therapy using metronidazole, led to rapid recovery and near complete resolution. This case typifies a not very uncommon but atypical presentation of amoebic liver abscess seen in practice characterized by intra abdominal space occupying lesion with non-specific symptoms and signs. Effective use of imaging techniques should help in the diagnosis. Ultrasound guided aspiration combined with medical therapy is effective treatment.

Key words: Amoebic liver abscess, atypical presentation, imaging

Introduction

About 10% of the world's population is chronically infected by *Entamoeba histolytica*.¹ Majority of these people live in the tropics. Amoebic liver abscess is the commonest site of extra intestinal amoebiasis² and has been noted to account for 48% of all visceral abscesses.³ It is a common problem in tropical countries.⁴

The typical patient with amoebic liver abscess presents with right upper quadrant pain, fever, intercostal tenderness with or without hepatomegaly and occasional pleuropulmonary signs. However, presentation may be atypical ranging from acute abdomen to chronic progressive abdominal swelling with or without pain.⁵ These may occur many years after the colonic lesions have subsided.⁶

Case report

A 63-year old man presented with a 2-year history of progressive abdominal swelling. The swelling started in the right hypochondrium but progressed to involve the whole abdomen. He had fever, jaundice and right upper quadrant abdominal pain 2 months before onset of swelling. He had no cardiovascular or respiratory symptoms and no leg swelling. He took some herbal medications and also visited several rural hospitals

where he received prescriptions of various drugs. There was however no improvement in his symptoms.

Physical examination showed pallor and wasting. There was no jaundice, no intercostal tenderness, no fever (Temperature 36.8°C) no peripheral lymphadenopathy or oedema.

The abdomen was uniformly distended, tense and non-tender. There was a firm mass occupying the entire right hypochondrium, extending from under the rib cage, crossing the midline and extending to both lower quadrants and hypogastrium (Figure 1). There was no clearly defined edge. There was no demonstrable ascites. Rectal examination was normal.

Urine and stool microscopy were normal. Full blood count showed normochromic, normocytic anaemia with haemoglobin concentration of 9gm/dl, white blood cell count was $7 \times 10^9/L$ (68% neutrophils, 30% lymphocytes and 2% eosinophils). Serum alkaline phosphatase was mildly elevated at 20 units/dl (King-Armstrong).

Chest X rays showed elevated right hemidiaphragm. Plain abdominal X ray showed uniform soft tissue opacity with few pockets of gas shadows in the left lateral and lower aspects. Abdominal ultrasound suggested a large liver abscess. Under ultrasound guide 20mls of reddish brown (anchovy paste) fluid was aspirated. Cytology showed only leucocytes, predominantly neutrophils.

Culture of the fluid was sterile. Amoebic precipitin test was positive.

Under ultrasound guide, repeated therapeutic aspirations were done using 19 gauge spinal needles with the patient detained and observed for 24 hours. This procedure was commenced 5 days after starting the patient on 800mg metronidazole orally, which was continued for 10 days. Aspirations were done on 4 sessions over a period of 6 weeks. A total of 5.2 litres of the fluid was aspirated. Recovery was uneventful and he was discharged home after 6 weeks, but was lost to follow-up.

Figure 1: The grossly distended abdomen



Discussion

This case typifies a not very uncommon but atypical presentation of amoebic liver abscess seen in practice with a space occupying lesion in the Liver and non-specific symptoms and signs. Young patients with amoebic liver abscess are more likely to present in the acute phase with fever, right upper quadrant pain and point tenderness over the Liver, and also more likely to have pleuropulmonary involvement.⁸ A majority of patients with amoebic liver abscess present in an acute (40%) or sub acute (50%) manner. Only 10% present in a chronic, difficult to diagnose manner.⁹ Older patients from endemic areas are more likely to have atypical presentation, ranging from acute abdomen to chronic progressive abdominal swelling with or without pain.⁵ These may occur many years after the colonic lesions have subsided.⁶

In Enugu, Nigeria 91% of patients with hepatic amoebiasis presented with hepatomegaly.⁷ Persistent pyrexia without other symptoms or signs may be the only presentation especially in the elderly.⁸ An unexplained fever or space-occupying lesion in the liver with non-specific symptoms and signs can be a

diagnostic dilemma. Alcoholism, malnutrition, physical exhaustion and pregnancy are factors that upset the host parasite relationship and facilitate invasion of the Liver by the parasite.¹⁰ Amoebic liver abscess is solitary and located in the right lobe of the liver in 70-80% of cases.^{1,10}

Routine laboratory investigations such as liver function tests, complete blood counts, stool and urine examinations may not be helpful in cases with atypical presentation.⁸ Serology using ELISA, indirect haemagglutination and immunodiffusion may give up to 90% diagnostic yield.^{1,8} Unfortunately these are not available in most hospitals in tropical Africa. Amoebic trophozoites are difficult to demonstrate in the amoebic liver abscess fluid.¹⁰

Imaging techniques such as X-rays, ultra sound scan, and computed Tomograms are becoming more readily available. These make diagnosis easier and also provide improved therapeutic efficacy through radiological intervention by ultrasound or CT guided aspirations or catheter drainage.

While most hepatologists consider that medication alone is effective enough in treating amoebic liver abscess, medical treatment alone may not be entirely efficacious for complete resolution. Treatment failure has been reported in as many as 15-50% of cases treated with metronidazole and 6% with chloroquine – emetine.¹¹⁻¹³

In a study of 51 patients with amoebic liver abscess¹⁴, three different treatment approaches were compared, medical therapy with metronidazole alone, open surgical drainage and percutaneous drainage using ultrasound guide combined with metronidazole administration. Patients receiving combined ultrasound guided drainage and chemotherapy experienced faster and overall better clinical and radiological response associated with fever relapses and less residual scarring than either medical therapy alone or open surgical drainage combined with medical therapy.

The diagnosis of amoebic liver abscess in our environment could be difficult in the elderly because of atypical presentation and may cause preventable deaths. Appropriate use of X-rays, ultrasound and serology in evaluating unexplained fever and/or abdominal space occupying lesions will not only lead to early diagnosis but also provide an interventional tool in the management of amoebic liver abscess.

References

1. Krige JEJ, Beckingham. Liver abscesses and hydatid disease. *Br Med J* 2001; 322: 537 – 540.
2. Radin DR, Ralls PW, Colletti RM, Halls JM. Computed tomography of amoebic liver abscess. *Am J Radiol* 1988; 150:1297-1301.
3. Altameier WA. Intra abdominal abscesses. *Am J Surg* 1973; 125:70-75.
4. Adi FC. Clinical features of hepatic

- amoebiasis. *West Afr Med J* 1965; 14: 181-197.
5. Ajao OG, Adebo OA. Un-ruptured amoebic liver abscess presenting as acute abdomen. *Trop Doct* 1983; 13: 109-111.
 6. Weatherel DJ, Ledingham JGG, Warrel DA. Amoebic infections. In: *Oxford textbook of medicine*. Oxford University Press, Oxford, 1985; 5:388 – 390.
 7. Ihekwaba AE, Ukabam SO. Some unusual presentations of hepatic amoebiasis in Enugu, Nigeria. *Trop Doct* 1991; 21: 60-62.
 8. Fauci AS, Braunwald E, Isselbacher KJ et al. Amoebiasis and infections with free living amoebas. In: *Harrison's principles and practice of medicine*. McGraw – Hill, Singapore, 1998; 1176-1180.
 9. Kapoor OP. Amoebic liver abscess. S. S Publishers, Mumbai 1979.
 10. Badoe EA, Achampong EQ, Jaja MOA. Principles and practice of surgery, including pathology in the tropics. Ghana Publishing Corporation, Tema, 1986.
 11. Saraswat VA, Agarwal DK, Baijal SS. Percutaneous catheter drainage of amoebic liver abscess. *Clin Radiol* 1992; 45: 187-89.
 12. Ralls PW, Barnes PF, Johnson MB. Medical treatment of amoebic liver abscess: a rare need for percutaneous drainage. *Radiology* 1987; 165: 805 – 807.
 13. Thompson JE, Fortenza S, Verma R. Amoebic liver abscesses: a therapeutic approach. *Rev Infect Dis* 1985; 7: 171-179.
 14. Filice C, Di Perri G, Strosselti M et al. Outcome of hepatic amoebic abscesses managed with three different therapeutic strategies. *Dig Dis Sci* 1992; 37: 240-47.
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