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Isolated Tubercular Abscess of The Liver in a Diabetic : Case Report

KEYWORDS

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ABSTRACT *Isolated tuberculous liver abscess is a very rare clinical entity. It is usually associated with dissemination from pulmonary or gastrointestinal tuberculous foci. We describe the case of a 70-year old diabetic who presented with fever and abdominal pain. He was diagnosed with isolated tubercular abscess of the liver without any evidence of other foci of disease, which was drained and antitubercular therapy instituted after investigations. We stress the importance of a high index of suspicion and early investigations followed by appropriate treatment for management of such cases*

Introduction

Tubercular abscess of the liver (TLA) is one of the rare forms of extrapulmonary tuberculosis even in countries where tuberculosis is an alarming health problem. It is usually associated with pulmonary or gastrointestinal tuberculosis [1] or with an immunocompromised state. Isolated tubercular abscess without foci of infection elsewhere is rare. The diagnosis is frequently confused with pyogenic liver abscess, amoebic liver abscess or hepatoma [2, 3]. A greater awareness of this clinical entity and timely investigations help to treat such cases and prevent morbidity and mortality.

Case Report

A 70-year old man was admitted to the Medicine outpatient department with complaints of fever and non-radiating pain in the right hypochondrium and epigastrium for the past 10 days. The fever was continuous, high grade and not associated with chills or rigor. There was no history of vomiting or diarrhoea. There was no history of tuberculosis or contact with any patient of tuberculosis. The patient has been a diabetic since 15 years and was on oral hypoglycaemic drugs with good control of blood sugar. On examination the patient was found to be febrile and dehydrated with a pulse of 90/ min, the blood pressure was 100/80 mm of Hg and the respiratory rate was 18/min. There was no icterus and no lymphadenopathy. Abdominal examination revealed tenderness and guarding over the intercostal spaces overlying the liver. The liver span was 16.2 cm. There was no splenomegaly, ascites or any other palpable mass over the abdomen. The respiratory and cardiovascular systems revealed no abnormality.

The chest X-ray revealed no lesion suggestive of tuberculosis (Fig 1). The right hemi-diaphragm was elevated and the costo-phrenic angle was blunted. An ultrasonogram of the abdomen revealed a well-defined heterogenous hypoechoic lesion of size 5.4 X 7.6 X 9.3 cms in the right lobe of the liver suggestive of an abscess (Fig 2). A computerised tomography (CT) scan of the abdomen revealed a well-defined hypodensity of size 5.6 X 7.6 X 9.7 cms with air-fluid level in the right lobe of the liver, predominantly in the segments V and VIII, suggestive of a liver abscess (Fig 3). No perihepatic or pleural effusion was seen. All other abdominal viscera appeared normal with no free fluid.

Routine hematology investigations revealed a total leucocyte count of 14,300/mm^3, with 80% neutrophils, 14% lymphocytes,04% eosinophils and 02% monocytes, with a haemoglobin of 10g/dl, with an erythrocyte sedimentation rate of 64 mm at the end of first hour and blood urea was 33mg/dl, serum creatinine was 1.4 mg/dl. The platelet count was 2.1 lakhs/ mm^{3}and random blood sugar was 110mg/dl. The HbA1C was found to be 5.3%. The SGOT and SGPT were 73 IU/L and 61 IU/L respectively. The total bilirubin was 0.6 mg/dl and serum alkaline phosphatase was 240 IU/L. The patient was non-reactive in HIV serology. Routine microscopic examination of the stool revealed no cysts or ova. The patient was started on parenteral aminoglycoside, metronidazole and third generation cephalosporin with a provisional diagnosis of pyogenic liver abscess but his condition did not improve.

An ultrasound-guided aspiration was carried out under local anaesthetic and 175ml of thick cream-coloured pus was drained. It was sent for bacterial and mycobacterial staining and culture. The aspiration material showed 11,000 leucocytes/ L with 9,000 neutrophils/L. The wet mount showed no trophozoites of ***Entamoeba histolytica*** or any fungal elements. The gram stain showed plenty of gram positive bacilli and routine aerobic cultures on blood agar and MacConkey agar were negative. The Ziehl-Neelsen staining showed plenty of acid-fast bacilli (Fig 4) and the material was inoculated onto Lowenstein-Jensen medium for mycobacterial culture. The material was also sent for histopathological investigations.

The patient was started on first-line antitubercular therapy (ATT) on receipt of the results of the investigations from the laboratory. He was started on isoniazid (H), rifampicin (R), pyrazinamide (Z) and ethambutol (E) for one year. The patient was stable on discharge and was advised to come for a follow-up every fortnight.

Discussion

Hepatic tuberculosis is a rare form of extrapulmonary tu-

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berculosis. Most of the cases occur in association with miliary pulmonary tuberculosis, following hematogenous dissemination [4]. In our patient there was no evidence of other foci of disease, like pulmonary or gastrointestinal tuberculosis. Levine classified hepatic tuberculosis into miliary, primary pulmonary tuberculosis with liver involvement, primary liver tuberculosis, tuberculoma and tuberculous cholangitis [5].

The first description of tubercular liver abscess (TLA) was given by Bestowe in 1858 [6]. The incidence of TLA has been described as 0.34% in patients with hepatic tuberculosis in a study where the patient age ranged from 6 months to 72 years [7]. TLA is frequently confused with pyogenic liver abscess, amoebic liver abscess or even hepatoma. The diagnosis of TLA is usually made at autopsy or sometimes after laparotomy [8].

The patient frequently presents with fever, vague abdominal pain, and anorexia or weight loss [9]. Hepatomegaly is frequently found on physical examination. Jaundice is a less common finding and may be caused due to extra- or intra-hepatic obstruction [10]. Ultrasound and CT findings help to delineate the site, size and describe the lesion [11]. A spectrum of findings may be seen, from granulomatous tubercles with or without caseous necrosis to calcification and fibrosis are found [4].

The diagnosis is confirmed by acid-fast staining, culture and PCR findings. Treatment should be started as early as possible to help prevent morbidity and mortality in such cases. Histological examination of the abscess wall is also required in some cases.

Antitubercular therapy alone or percutaneous drainage with antitubercular therapy are the usual treatment options [8]. CT or USG guided drainage is carried out for better chances of success. Systemic four-drug therapy with isoniazid, rifampicin, pyrazinamide and ethambutol is recommended for one year with periodic follow-up to ensure recovery. Gracey postulated that a large abscess and the presence of thick fibrous tissue around the abscess prevent the access of antibiotics [6]. Percutaneous drainage with transcatheter infusion of antitubercular drugs is required in some cases. Surgery is performed in cases where percutaneous drainage is not possible or successful [9, 12].

Conclusion

Isolated tubercular abscess of the liver is a rare entity. It is mandatory to maintain a high index of suspicion in cases of liver abscess, especially in a country where tuberculosis is endemic. The prognosis of hepatic tuberculosis is good if diagnosed early and appropriate treatment is administered.

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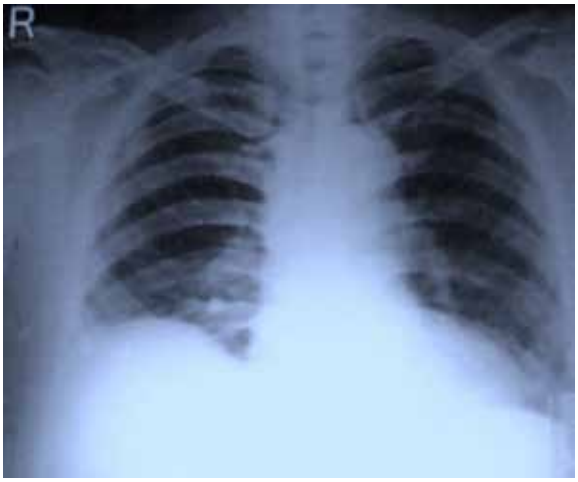

Fig 1: Chest X-ray AP view

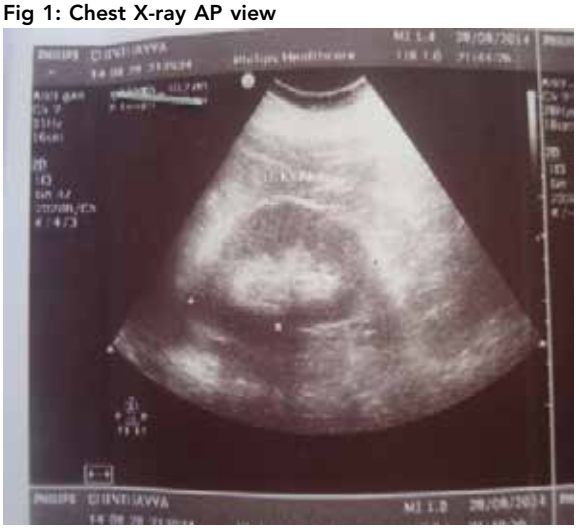

Fig 2: USG abdomen showing well-defined hypoechoic lesion in the liver suggestive of an abscess

Fig 3: CT scan of the abdomen showing hypodensity in the liver suggestive of abscess

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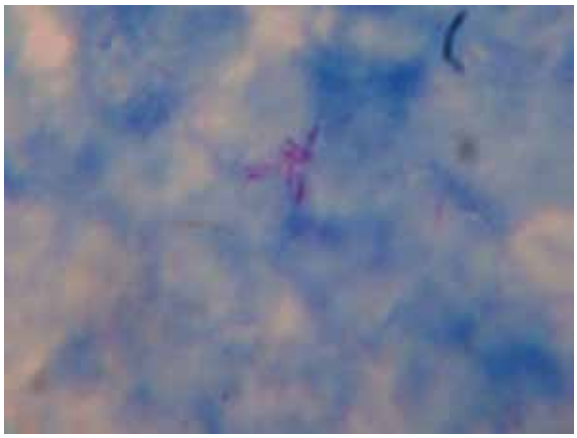

Fig 4: Plenty of acid-fast bacilli seen in the aspirated material from the liver abscess

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