Hepatic Abscess Due to Tuberculosis in an Immunocompetent Patient


Abstract
With the advent of HIV, bizarre presentations of tuberculosis are encountered including involvement of liver.
But here we report a case of right-sided pleural effusion and tuberculous liver abscess in an immunocompetent patient.

Introduction

Hepatic involvement in tuberculosis is mostly due to haematogenous spread in the form of granulomas associated with miliary tuberculosis. Tuberculous liver abscess is a rare entity. Hence, this is an unusual case of liver abscess with right-sided pleural effusion in the laboratory diagnosis of tuberculosis without evidence of miliary tuberculosis.

Case Report

A 43 year old male non-alcoholic presented with 10 days history of high grade fever and pain in right lower chest along with pain in right hypochondrium. There was history of nausea and loss of appetite. On general examination, the patient was afebrile but other parameters were stable. On local examination the liver was palpable 4 cm below the costal margin. There was tenderness and guarding in the right hypochondrium and in the epigastrium. The air entry on the right side of the chest was decreased in the middle and lower zones. There was no evidence of free fluid in the abdomen. There was no jaundice. Investigations done were : Haemoglobin - 10 gm%, WBC - 36,800 (Polymorphs - 88%, Lymphocytes - 8%, Eosinophils - 13%, Basophils - 1%). ESR in the first hour was 112 mm. The peripheral smear for malarial parasite was negative. Widal test was negative. Liver function tests were deranged with raised alkaline phosphatase (376 U/L), SGOT (115 U/L), SGPT (99 U/L) and serum bilirubin was 1.06 mg%. HIV by ELISA was negative. Ultrasonography done showed hepatomegaly with two right lobe liver abscesses each measuring 8.5 cm x 5.2 cm and 4 cm x 2 cm with supra-diaphragmatic and sub-diaphragmatic fluid collection. The rest of the pelvis and abdomen were normal. Chest X-ray showed raised right side of the diaphragm due to hepatomegaly and slight obliteration of the right costophrenic angle due to minimal pleural effusion. USG guided aspiration from liver yielded 800 ml of anchovy sauce like pus, which was sent for microbiological analysis. The differential diagnosis rested on Pyogenic liver abscess? Amoebic abscess. So the patient was initially treated with cefotaxime and metronidazole for 5 days. But there was no response. Hence ceftazidime with amikacin was started. The pus showed no trophozoites of E. histolytica. The gram stain and culture showed no presence of organisms. Acid-fast bacilli were seen on Ziehl Neelsen’s staining and by Fluorescence Microscopy. On the basis of the demonstration of acid-fast bacilli by Ziehl Neelsen’s staining, the patient was started on 4-drug anti-tuberculosis treatment namely isoniazid (300 mg), rifampicin (600 mg), ethambutol (1200 mg) and pyrazinamide (1500 mg) for two months followed by isoniazid and rifampicin for another four months. Conventional method of culture on Lowenstein Jensen’s medium yielded growth of M. tuberculosis in 4 week’s time. The anti-
tuberculosis drug susceptibility performed by resistance ratio method using Lowenstein Jensen’s medium showed sensitivity to isoniazid, rifampicin, ethambutol, pyrazinamide and streptomycin in their critical concentrations 2 µg, 40 µg, 2 µg, 50 µg and 4 µg respectively as given by Lee and Heifet.8 The patient responded favourably to the treatment with disappearance of fever and improvement in general condition. After one month of treatment, the USG showed resolving abscesses. The X-ray chest also showed resolution of minimal pleural effusion.

Discussion

Liver abscesses are mainly due to amoebic and pyogenic infections. Other rare conditions where liver abscesses are encountered are syphilitic gummas and actinomycosis. Primary involvement of the liver in tuberculosis is a rare entity. This is due to the low tissue oxygen level which makes liver inhospitable place for tubercle bacillus.1 It has been reported in less than 1% cases.2 The miliary spread of tuberculosis to liver is the most commonly encountered lesion. The focal lesions in liver are either conglomerate tubercles or granulomas.9,10 Tuberculous liver abscesses have been very rare manifestations and have been reported in few cases.3,4,11 Here we report a case of hepatic tuberculosis in the form of an abscess with minimal pleural effusion. It is very rare to demonstrate acid-fast bacilli (AFB) in liver tuberculosis.5 The presence of AFB although highly suggestive of tuberculosis, cannot be relied on with certainty as atypical mycobacteriosis are an increasing cause of hepatic granulomas especially with the advent of AIDS.5 Although definitive diagnosis by culture is desired, culture of liver specimens are positive for only a small percentage of patients.5 In the present case not only was it possible to demonstrate the AFB but also M. tuberculosis was isolated in culture. This helped in diagnosis of hepatic tuberculosis according to the features suggested by Sherlock. M. tuberculosis was susceptible to the antituberculosis drugs tested. This conformed with the clinical response of the patient as suggested by the follow-up sonographic studies. Tuberculous liver abscess was reported in an HIV infected patient.7 But the present case has no evidence of immunosuppression. Thus in conclusion, any liver abscess must be evaluated for tuberculosis whether HIV or no HIV infection and microbiological diagnosis must be resorted to. For a successful therapy against liver tuberculosis, in the advent of MDR TB, anti-tuberculosis drug susceptibility must be done.

References