

Case Report

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Tuberculous Liver Abscess in an Immunocompetent Patient: a Case Report

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Introduction: Tuberculous or tubercular liver abscess (TLA) is a rare manifestation of extrapulmonary tuberculosis (TB) and it should be considered in the differential diagnosis of mass or cystic lesions of the liver especially in a high TB prevalence country like Iran.

Case Presentation: We report an immunocompetent 48 year-old woman with TLA and peritoneal infection.

Although hepatic TLA is very rare, it should be considered in the differential diagnosis of mass or cystic lesions of the liver especially in a high TB prevalence country.

Key words: Tubercular liver abscess, Hepatic tuberculosis, Immunocompetent

INTRODUCTION

Tuberculosis is a common disease in Iran (21/100,000people); but hepatic TB is a rare entity (1).

Focal TB of the liver can be manifested by a single or multiple tuberculous abscesses (2). These appear to occur more frequently in immunocompromised patients or in association with foci of infection in the lung and/or gastrointestinal tract (3). In this report, we describe a case of TLA with evidence of peritoneal infection in a patient without immunodeficiency.

CASE SUMMARIES

A 48 year-old woman was admitted to our hospital with a history of non-radiating pain in the right upper quadrant and epigastrium associated with nausea and bloating (dyspepsia) for the past 20 days. There was no previous history of TB or contact with any TB patient. At the time of admission, on physical examination, except

tenderness in the right upper quadrant, no other physical finding was detected. Lab tests: hemoglobin 11g/dl; white blood cells 10000/mm³ (78% neutrophils); platelet count 270,000/mm³; erythrocyte sedimentation rate: 35/mm at the end of the first hour; blood urea 25mg/dl; creatinine level 0.9mg/dl; total bilirubin of 1mg/dl with direct component of 0.4; AST 24U/L; ALT 32U/L (normal range for AST is 17-59U/L and for ALT is 21-72U/L). Routine and microscopic examinations of stool revealed no cyst or ova; blood for amoebic serology was negative. HIV test was negative. Chest x-ray (CXR) was normal. Ultrasonography (US) of the abdomen revealed a hypochoic lesion measuring 43*35mm in the anterior and sub capsular right lobe of the liver suggestive of an abscess. All other abdominal viscera appeared normal with no free fluid. A computerized tomographic (CT) scan of the abdomen showed sub capsular, well-defined cystic lesions in the right liver lobe (Figure 1).

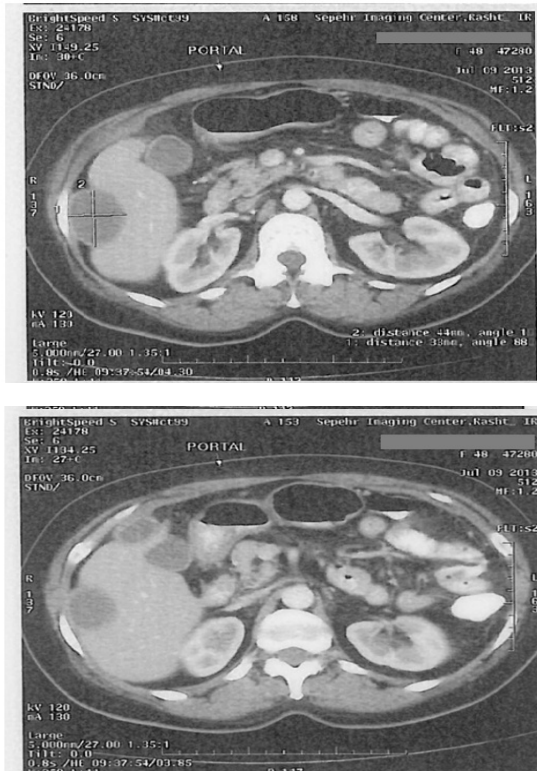


Figure 1. CT scan of the abdomen showing well-defined hypo-dense masses in the right liver lobe.

Then, 20 cc of pus was aspirated under US guidance and sent for microbiological investigations. Routine bacteriological cultures of the aspiration fluid were negative for bacterial infection and fungus. The patient was started on parenteral metronidazole 750 mg/tds and ciprofloxacin 400 mg/bid for 14 days with provisional diagnosis of amoebic or pyogenic liver abscess. Due to poor response to initial treatment, US was repeated and showed persistence of the liver abscess in the anterior and sub capsular right lobe. Repeated aspiration under CT guidance was performed and 10 ml of the cloudy cream-colored pus was sent for Ziehl-Neelsen staining, acid fast bacilli [AFB] culture, polymerase chain reaction (PCR) for TB and other routine microbiological investigations and cytology; which were all negative but the sample was positive on PCR for *Mycobacterium tuberculosis* and diagnosis of TLA was made. Then, laparoscopy was performed and peritoneal biopsy showed granulomatous

peritonitis with caseating necrosis most compatible with TB. The four first line systemic anti TB drugs (isoniazid 300mg/ po, rifampin 600mg/ po, pyrazinamide 1500mg/ po, ethambutol 1000mg/ po) were started. The patient is currently receiving anti TB medications and is asymptomatic. The repeat US of the liver revealed regression of the abscess.

DISCUSSION

Hepatic TB is an uncommon form of extrapulmonary TB (4), reported in 10-15% of patients having extrapulmonary tuberculosis, but TLA is extremely rare with a prevalence of 0.34% (5). TLA is usually secondary to TB of the lung or gastrointestinal tract (6). Symptoms of the disease are commonly non-specific and include fever, right upper quadrant pain and anorexia. Hepatomegaly is the most common physical finding while jaundice is uncommon (3, 5). TLA is frequently confused with amoebic or pyogenic liver abscess and hepatoma (7). Definitive diagnosis of TLA depends upon the detection of tubercular bacilli in aspirated pus or in the liver biopsy stained for AFB, culture or PCR for *Mycobacterium tuberculosis* (2, 3).

Ziehl-Neelsen staining (aspirated pus) is a cheap technique and easy to perform but lacks sensitivity for *Mycobacterium tuberculosis*. *M. tuberculosis* culture is the gold standard method but requires viable microorganism and long incubation period. Recently, PCR has been proposed for rapid diagnosis of *M. tuberculosis* in clinical samples to improve the TB management. The most common technique used is the DNA amplification by PCR (8). PCR testing has a good sensitivity [92.4%] and high specificity [98%] (9). Alcantara-Payawal and coworkers reported 88% positivity with PCR assay in patients with definitive diagnoses of TB. This was favorably higher when compared with the use of conventional method (AFB and culture) yielding 0-12% positivity (10). Anti TB drugs at least for 1 year alone or in combination with percutaneous drainage are the preferred management for this condition (11).

CONCLUSION

Although hepatic TLA is very rare, it should be considered in the differential diagnosis of mass or cystic lesions of the liver especially in a high TB prevalence country like Iran. Also, PCR assay enables rapid identification of *M. tuberculosis* and expedites treatment planning.

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