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Case Report

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Isolated tuberculosis of liver & spleen: A rare presentation

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Abstract

Tuberculosis (TB) is common in India. It is one of the known endemic diseases in this part of world; the organ to be mostly affected is lung. The incidence of tubercular lymphadenitis is mostly seen in the extra-pulmonary involvements. Abdominal TB is very uncommon, making up to 3.25% of extra-pulmonary TB. In a rare case it involves the liver and spleen and when it does so, it is usually associated with disseminated disease pattern.

Introduction

Tuberculosis (TB) is a major cause of ill health, one of the top 10 causes of death worldwide and the leading cause of death from a single infectious agent. It is also very common in India due to poor socio-economical condition and poor hygenicity [1]. Even though the most common presentation is pulmonary TB, extra pulmonary TB accounts for around 13% of all TB cases [2]. Isolated hepatic and splenic TB in the absence of disseminated disease is exceedingly rare and poorly described in the literature [3]. The diagnosis is difficult and delayed due to non- specific clinical and imaging features. Here we describe a rare case of isolated hepatosplenic tuberculosis.

Case report

A 42 years old male normotensive, non-diabetic presented with high grade fever associated with chill and rigor and upper abdominal pain for 2 weeks. On examination patient had pallor with no lymphadenopathy. Haemodynamically blood pressure 110/60 mmhg, pulse 122/min, temperature was 102 F. On systemic examination tenderness was present over the epigastric and rt. hypochondrium, hepatomegaly was appreciated, Spleen was not palpable. Laboratory investigations revealed serum hemoglobin level 8.8 gm/dl, erythrocyte sedimentation rate 102 with peripheral blood smear showing neutrophilic leukocytosis, liver and renal function tests were normal. Tumor markers alpha- fetoprotein, CEA and CA 19-9 were normal. Upper G.I. endoscopy and colonoscopy was normal. USG abdomen showed multiple hypoechoic lesions with central echogenicity in both liver and spleen. CECT abdomen scan showed multiple hypo-density lesions in the liver and spleen. Temperature was high grade with intermittent pattern responding partially to medications. Pus was aspirated under CECT guidance from liver and spleen and was sent for culture and AFB stain, malignant cell, and Gene Xpert. All but Gene Xpert reports were negative. A detailed workup failed to identify other focus of tuberculosis. Patient was started on Anti tubercular therapy (ATT) category 1 and later fever subsided. The patient was discharged after a period of 6 days and on followup did not complaint of fever and gained appetite and weight.

Discussion

Isolated hepatosplenic TB is rare, due to the lack of oxygen in the liver, which is not favorable to the development of mycobacteria [4]. Reed et al have classified hepatic TB into three morphological types: (A) TB of the liver associated with generalized miliary TB, which is the most common form, noted in 60-80% of patients dying from pulmonary TB, (B) primary miliary TB of the liver and (C) primary tuberculoma or abscess of liver [5]. Splenic TB similar to hepatic TB can occur either as a part of disseminated disease or in isolated form. Path morphologically, splenic TB is of five types: miliary TB, nodular TB, tuberculous splenic abscess, calcific TB and mixed type [2,6]. The clinical presentations are non-specific and range from being asymptomatic to manifesting fever, weakness, weight loss, abdominal pain, hepatosplenomegaly [7]. So there is often delay in making the diagnosis. Imaging features of hepatic and splenic TB are nonspecific, and have overlapping features with conditions such as metastasis, lymphoproliferative diseases and other granulomatous conditions, including sarcoidosis and fungal infections. The described USG features include well-defined to ill-defined hypoechoic lesions with or without specks of calcification [8]. CECT features include non- enhancing to heterogeneously enhancing hypodense lesions, with central necrosis in cases of tubercular abscesses. Based on CECT findings, hepatic TB has been categorized into three types: (A) parenchymal, (B) serohepatic and (C) tubercular cholangitis. The parenchymal type is the most common form, comprising of miliary, nodular and mixed variants. Miliary TB presents with multiple discrete non enhancing hypodense lesions, less than 2 cm in size. The nodular form represents lesions more than 2 cm in size, with central non-enhancing necrosis and thick internal septations. The mixed form shows features common to miliary as well as nodular forms. Serohepatic TB refers to peripherally placed miliary TB showing mild peripheral enhancement and causing thickening of the liver capsule. Tubercular cholangitis presents with focal or diffuse irregularly dilated intrahepatic ducts or diffuse calcification along the course of the biliary ducts [9]. Histopathological and/or microbiological evidence is a must for establishing a diagnosis of hepatosplenic TB.

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Histopathology demonstrates characteristic granulomas composed of central caseous necrosis surrounded by epithelioid cells, Langhans giant cells and lymphocytes [9]. Tissue from liver obtained by needle biopsy or laparotomy which is more invasive. FNAC and Gene Xpert may be an effective alternative. Gene Xpert assay detected pulmonary TB in all TB patients, including over 90% of smear-negative patients, with a high sensitivity of over 97%. The combined sensitivity and specificity of the Xpert assay for detection of extrapulmonary TB were calculated to be 77.3% and 98.2%, respectively [10]. In this case we collected specimen by FNAC and Gene Xpert was positive. Treatment is ATT, according to different protocols. In India, the quadruple therapy (isoniazid, rifampicin, ethambutol pyrazinamide) for 2 months, followed by combination therapy (isoniazid, rifampicin) for 4 months, is the standard treatment.

Conclusion

Due to its atypical clinic radiological features, hepatosplenic TB cannot be easily diagnosed and one can miss it. Hence one should always consider it in the differential diagnosis of multiple hypodense lesions in the liver and in the spleen, especially in endemic areas. FNAC and Gene Xpert may be a good diagnostic tool alternative to liver biopsy and histopathology.

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