

Isolated Hepatosplenic Tuberculosis: A Rare Case Report

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Abstract

Background: Tuberculosis is common in Bangladesh. It rarely involves the liver and spleen and when it does so, it is usually associated with disseminated disease.

Method: We report a patient with isolated tuberculosis of the liver and spleen.

Results: A 55 years old female presented with fever with chill and rigor and upper abdominal pain. USG revealed multiple hypoechoic lesions with central echogenicity in liver and spleen. CT scan showed multiple hypo density lesions in the liver and spleen. AFP, CEA and CA-19-9 were normal. As temperature was not subsided with antibiotics, pus from liver and spleen was aspirated and sent for gram and AFB stain, C/S, malignant cell, and Gene Xpert. All but Gene Xpert reports were negative. A detailed workup failed to identify other focus of tuberculosis. CAT-1 Anti tubercular started and the fever subsided. The patient gained weight on the subsequent follow up.

Conclusion: Tuberculosis should also be considered in the differential diagnosis for multiple nodules in the liver and spleen along with other diagnosis, though it is rare. Gene Xpert is a good diagnostic tool.

Keywords: SOL in Liver and spleen, Hepatosplenic tuberculosis, Gene Xpert

Background

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 (ranking above HIV/AIDS). It is also common in Bangladesh. Its incidence in Bangladesh is 221/100000 population [1]. Even though the most common presentation is pulmonary TB, extra pulmonary TB accounts for around 15% 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. In this report, we describe a rare case of isolated hepatosplenic tuberculosis.

Case Report

A 55 years old female presented with fever with chill and rigor and upper abdominal pain for 3 weeks. On Physical examination patient was mild anaemic, temperature was 101.0 F, tenderness present over the epigastric and rt. hypochondriac region, Liver was enlarged, 3cm from the costal margin along the MCL, smooth, soft and tender, no hepatic bruit, Spleen was not palpable. Laboratory data revealed

serum hemoglobin level 9.8 gm/dl, erythrocyte sedimentation rate 45m in 1st hour with neutrophilic leukocytosis, normal liver and renal function tests, and normal blood sugar. Tumor markers alpha-fetoprotein, CEA, CA 19-9 and CA- 125 were normal. Upper GI endoscopy and colonoscopy was normal. USG revealed multiple hypoechoic lesions with central echogenicity in liver and spleen. CT scan showed multiple hypo

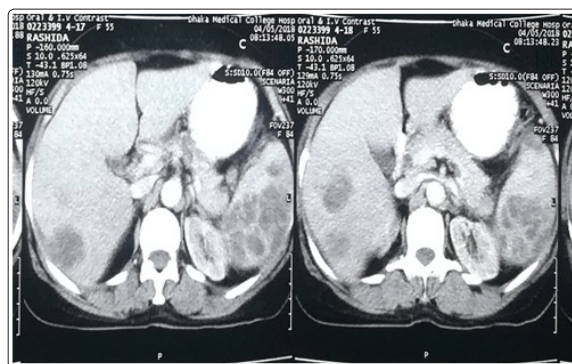


Figure 1: Contrast-enhanced CT of the abdomen of the patient demonstrating multiple, relatively well-defined, hypoenhancing lesions of varying sizes involving the liver and spleen

-density lesions in the liver and spleen (Figure 1). As temperature was not subsided with antibiotics, pus from liver and spleen was aspirated and sent for gram and AFB stain, C/S, malignant cell, and Gene Xpert. All but Gene Xpert reports were negative. A detailed workup failed to identify other focus of tuberculosis. CAT-1 Anti tubercular started and the fever subsided. The patient gained weight on the subsequent follow up.

Discussion

Isolated hepatobiliary 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: (1) TB of the liver associated with generalized miliary TB, which is the most common form, noted in 50-80% of patients dying from pulmonary TB, (2) primary miliary TB of the liver and (3) primary tuberculoma or abscess of the liver [5]. Splenic TB similar to hepatic TB can occur either as a part of disseminated disease or in isolated form. Pathomorphologically, splenic TB is of the following 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 and, rarely, portal hypertension and most patients do not have a history of prior exposure to TB [7]. So there is often delay in the diagnosis.

The 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 ultrasound features include well-defined to ill-defined hypochoic lesions with or without specks of calcification [8]. CT features include non-enhancing to heterogeneously enhancing hypodense lesions, with central necrosis in cases of tubercular abscesses. Unusual features include irregular biliary ductal dilation and wall enhancement with stippled wall calcifications. Based on CT findings, hepatic TB has been categorized into three major types, namely: (1) parenchymal, (2) serohepatic and (3) 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. Histopathology demonstrates characteristic granulomas composed of central caseous necrosis surrounded by epithelioid cells, Langhans giant cells and lymphocytes [3]. 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% [10]. The combined sensitivity and specificity of the Xpert assay for detection of extrapulmonary

TB were calculated to be 77.3% and 98.2%, respectively [11]. In this case we collected specimen by FNAC and Gene Xpert was positive.

Treatment is antitubercular drugs, according to different protocols. In Bangladesh, the quadruple therapy (isoniazid, rifampicin, ethambutol pyrazinamide) for 2 months, followed by combination therapy (isoniazid, rifampicin) for 4 months, is the standard treatment (CAT-1). Some authors recommend prolonging treatment for 12 months [12]. In our case, the patient received conventional quadruple therapy for 6 months with good treatment outcome.

Conclusions

Due to its atypical clinicoradiological features, hepatosplenic TB cannot be easily diagnosed and should always be considered 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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