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Case Report

A Rare Case of Hepatic Tuberculosis in Cholangiocarcinoma

Mohammed Hidayath Hussain[1], Sindhoora Rawul[2], Hina Afreen[3], R J Bhavna Srivastav[4]

[1]Professor and Head, Department of Pulmonology, Dr VRK Women's Medical College, Teaching Hospital and Research, Hyderabad, Telangana, India, [2]Assistant Professor, Department of Pulmonology, Dr VRK Women's Medical College, Teaching Hospital and Research, Hyderabad, Telangana, India, [3]Senior Resident, Department of Pulmonology, Dr VRK Women's Medical College, Teaching Hospital and Research, Hyderabad, Telangana, India, [4]First Year Postgraduate, Department of Pulmonology, Dr VRK Women's Medical College, Teaching Hospital and Research, Hyderabad, Telangana, India

Abstract

Tuberculosis (TB) is one of the oldest known infective bacterial diseases to mankind. Hepatic TB is an extremely rare form of extrapulmonary TB and can be seen as miliary TB, tubercular abscess, or portal hepatitis. Primary involvement of the liver in TB is rare due to the low tissue oxygen level, which makes the liver unfriendly for the propagation of the bacilli. Hepatic TB is observed in predominantly three forms, namely, (i) miliary hepatic TB, seen as a part of systemic tubercular infection, where small tubercular lesions can be seen diffusely distributed across the liver and where the patient remains almost asymptomatic from the hepatic perspective, (ii) primary TB of the liver without the involvement of other organs present as granulomatous hepatitis, and (iii) tubercular abscess and nodular TB. Hepatobiliary TB forms an important subgroup in TB cases. It requires a combination of imaging, histological, and microbiological procedures to define the diagnosis. The diagnosis is made by image-guided tissue acquisition.[1] Medical management is the key treatment of hepatic TB with an excellent prognosis. Hereby, we report a case of hepatic TB in a patient who was on treatment for cholangiocarcinoma.

Key words: Cholangiocarcinoma, Hepatic tuberculosis, Liver/spleen mass

INTRODUCTION

Although the prevalence of tuberculosis (TB) decreased quickly worldwide after the widespread use of anti-TB drugs in the 1940s, the incidence rates have increased in recent years due to government and patient complacency regarding the TB problem, inadequate public health measures, HIV coinfection, intravenous drug abuse, multidrug resistance, and an increased number of immunocompromised patients. Tuberculous involvement of the liver as a part of disseminated TB is seen in up to 50–80% of cases and with the increasing resurgence of TB, the incidence of hepatic TB has also been increasing.

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TB can affect any system or organ throughout the body. TB infection of the liver, also known as hepatic TB, is a manifestation of extrapulmonary infection with *Mycobacterium tuberculosis*.[1] Hepatic TB is uncommon clinically, clinicians in TB-endemic regions should have a high index of suspicion in patients presenting with hepatomegaly, fever, respiratory symptoms, and elevated liver enzymes and the main clinical manifestations our patient presented with are fever, hepatomegaly, splenomegaly, and abdominal distention.

CASE REPORT

A 61-year-old female patient who is a known case of cholangiocarcinoma, undergoing chemotherapy, presented with complaints of pain abdomen and fever for 7 days. Pain abdomen was aggravated on the right hypochondriac region, with sharp pain. Fever was high graded in nature and aggravated in the evenings. The previous history of weight loss was noted, along with decrease in appetite, nausea, and bloating. On examination, the patient was thin built, vitals stable on palpation, and the spleen was enlarged.

Corresponding Author: R J Bhavna Srivastav, First Year Postgraduate, Department of Pulmonology, Dr VRK Women's Medical College, Teaching Hospital and Research, Hyderabad, Telangana, India.

PET scan report showed multiple ill-defined lesions in both lobes of the liver showing FDG uptake SUV-10. On further investigation, the CT-guided biopsy of liver showed coalescent small granuloma composed of epitheloid cells, Langhan's type giant cells with no atypical cells, and suggestive of granulomatous inflammation of Koch's etiology.

HISTOPATHOLOGY REPORT

HISTORY:
- Cholangio carcinoma.
- Multiple ill defined lesions in both lobes of liver showing FDG uptake SUV – 10.

SPECIMEN:
CT Guided Biopsy – Liver / Spleen mass.

GROSS :
Received six linear grey white / grey brown soft tissues bits measuring 0.2 – 1.5 cm.- A, B.

MICROSCOPIC EXAMINATION:
Sections show fragments of liver parenchyma with portal tracts and mild lymphocytic inf small tiny peri portal focus shows coalescent small granuloma composed of epithelioid langhan's type giant cells. There is no evidence of any atypical cells.

IMPRESSION:
FEATURES MAY BE SUGGESTIVE OF GRANULOMATOUS INFLAMMATION OF KOCH'S

Suggest to correlate with biopsy from other representative site and gene expert studies.

End of report

DISCUSSION

TB of the liver is uncommon and accounts for <1% of all tuberculous infections. It is rare due to low tissue oxygen tension in the liver, which is unfavorable for mycobacterial growth. Liver is a common site for granuloma formation due to its rich blood supply, lying at the distal end of portal circulation, and a large number of reticuloendothelial cells. A majority of granulomas are usually located near the portal tract and there is only mild perturbation of hepatic function, so most patients are minimally symptomatic or asymptomatic.[2] The disease may present at any age but is most commonly seen in young adults.

Primary hepatic TB may occur in the extremely rare congenital form, but it is usually secondary to miliary TB. However, our case had no previous history of TB. According to the Levine classification, our case likely represents hepatobiliary TB (HBTB) secondary to cholangiocarcinoma.

Levine classified TB as follows: (i) miliary TB; (ii) pulmonary TB with hepatic involvement; (iii) primary liver TB; (iv) focal tuberculoma or abscess; and (v) TB cholangitis.[3]

Tuberculous involvement of the liver as a part of disseminated TB is seen in up to 50–80% of cases, but localized HBTB is uncommonly described.[2] Among the cases of hepatic TB reported in the literature, the miliary form was common (79% of cases), with local hepatic TB accounting for only 21% of cases.[4]

Hepatic TB has many faces and the imaging manifestation can show considerable overlap with other relatively more frequent primary or secondary lesions of the liver. Isolated hepatic involvement by TB can especially be challenging to diagnose on imaging alone due to its largely non-specific imaging features.

The term HBTB refers to either isolated hepatic, biliary, or hepatobiliary involvement with other organ system involvement.[5] The liver is involved in Mtb in two major forms. The more common involvement of the liver in TB is as a part of a miliary or a disseminated disease. In such type of involvement, there may not be any specific signs or symptoms related to the liver except for the presence of hepatomegaly. Liver biopsy in such patients may show the presence of granulomas. The second form, seen less often, is a localized form of TB involving the liver and the biliary ducts. Localized HBTB may occur as the following: (i) localized solitary or multiple nodules, tuberculoma, and TB hepatic abscess without bile duct obstruction; (ii) bile ductal epithelium involvement producing inflammatory strictures resulting in obstructive jaundice; and (iii) enlarged lymph nodes at porta causing obstruction to the bile duct.[6] Obstructive jaundice is more common in those having biliary system involvement. In most patients, an increase in alkaline phosphatase, gamma-glutamyl transferase, and a mild rise in serum transaminases is evident.

This regimen cures more than 90% of patients with TB. The optimal duration of time to treat hepatic TB in patients diagnosed with cancer is 12 month regimen of ATT seems to be effective for most patients to avoid relapse. Patients will require monthly follow-ups with LFT. If LFT is normal, the treatment is to be continued as any other normal patient. Patients generally do not require any further surgical intervention after the completion of anti-TB therapy, but the surgical treatment of hepatic TB is usually required in cases of TB-related biliary compression leading to jaundice, portal hypertension, or biliary bleeding, or when the diagnosis is uncertain.

Glucocorticoids may have a role in the treatment of hepatic TB that does not respond appropriately to standard anti-TB therapy. There is insufficient controlled data to recommend the use of corticosteroids in all cases of hepatic TB, either in isolated hepatic TB or in complications of cornified/spread TB. However, if there are indications for surgery or challenging to diagnose, surgical procedures along with anti-tubercular drug therapy could be adopted.

CONCLUSION

Hepatic TB is usually associated with atypical clinical manifestations. In endemic countries and inappropriate clinical settings, an atypical imaging pattern of a hepatic lesion should prompt the radiologist to consider hepatic TB as one of the differential diagnoses. Image-guided fine-needle aspiration biopsy is the best diagnostic method so far for diagnosing hepatic TB. Although image-guided fine-needle aspiration biopsy is often required for a confirmatory diagnosis, in a low-resource setting, the presence of calcifications and the concurrent involvement of extrahepatic sites (spleen, lungs, and nodes) should prompt the possibility of HBTB.

Patients of HBTB often respond well to anti-TB treatment.

In this case, we must understand the importance of suspecting TB, especially in endemic countries, where CT reports show calcifications and nodules principally in immunocompromised patients, although they do not present with classical symptoms of TB. An early diagnosis and prompt treatment will prevent the further spread of infection, prevent complications, and increase the better outcomes for the patient.

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