Isolated Tubercular Liver Abscess: An Entity Rarely Thought, Diagnosed on Cytology

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ABSTRACT

Introduction: Tuberculosis is a rare cause of liver abscess in the Indian subcontinent even though the disease itself has high prevalence rates here. Isolated tubercular liver abscess presenting without any other foci of infection is a rare presentation with a documented prevalence of 0.34%. In an adult immune competent patient diagnosis can be challenging as it is likely to be confused with pyogenic and amoebic liver abscess or hepatoma.

Case History: A 30 year old female patient presented with complaints of low grade fever, vague abdominal pain of 4 months duration, breathlessness and loss of appetite for 1 month. Past or family history was non-contributory. Ultrasonography abdomen revealed a small hypoechoic lesion in sub-hepatic region of size 49x20mm suggestive of a liver abscess. Computerized Tomographic scan images confirmed loculated irregular collections in and around left lobe of liver and Reidel’s lobe. Fine needle aspiration cytology from the lesion revealed ill formed granulomas on a necrotic background. Ziehl Neelson staining was positive for acid fast bacilli.

Conclusion: Isolated tubercular liver abscess is a rare entity, particularly in immunocompetent individuals. Symptomatology and radiologic findings may not be contributory. Diagnosis of this entity rests on the demonstration of acid fast bacilli in material obtained. FNAC is a simple minimally invasive, cost effective procedure which helps attain the same.

Keywords: Liver Abscess, Tuberculosis, Rare Entity, Cytology

Abbreviations
FNAC: fine needle aspiration cytology
USG: ultrasonography
CT: computerized tomography
MGG: May Grunwald Geimsa
ZN: Ziehl Neelson
AFB: acid fast bacilli
HIV: human immunodeficiency virus

Introduction
Liver is a frequently involved intra-abdominal organ susceptible to the development of abscess for a variety of causes chiefly organisms, be it parasitic (amoebic), fungal or bacterial (including mycobacterial).[1] In the Indian subcontinent Tuberculosis continues to be a major public health problem and is known to exist in two forms pulmonary and extra-pulmonary. Hepatic involvement in tuberculosis has been associated with both. Bacilli from respiratory and gastro-intestinal lesions reach via Hepatic vein or Portal vein. Isolated tubercular liver abscess is a rare entity seen in 0.34% of cases with hepatic tuberculosis.[2]

Tuberculosis is a rare cause of liver abscess in the Indian subcontinent even though the disease itself has high prevalence rates here. Isolated tubercular liver abscess presenting without any other foci of infection is a rare presentation with a documented prevalence of 0.34%. In an adult immune competent patient diagnosis can be challenging as it is likely to be confused with pyogenic and amoebic liver abscess or hepatoma.

Case Report
A 30 year old female patient presented to the medicine outpatient department with complaints of low grade fever and vague abdominal pain of 4 months duration. Occasional episodes of vomiting were reported during this period. She had no history of cough, expectoration and hemoptysis. There was no past history for any chronic illness such as asthma, tuberculosis or diabetes. Prior contact with patients of tuberculosis was not documented. She had additional complaints of breathlessness and loss of appetite for 1 month. On examination she was found to have mild epigastric tenderness and a mass in the right upper abdomen. There was no jaundice or peritoneal signs. There was no history of blood transfusion or high risk behaviour.

General examination was non-contributory. Systemic examination showed slight dullness in right lower lung and costo-phrenic angle. Per abdomen mild tenderness in right upper quadrant was present. Laboratory investigations revealed haemoglobin of 10.7gm/dl, haematocrit 35.3%, total leucocyte count of 13,000/mm³ with neutrophilia and raised liver enzymes (SGOT= 153.0 IU/L, SGPT=95.0 IU/L).
IU/L, serum Alkaline Phosphate=150.0 IU/L). Patient was seronegative for HIV1 & HIV2. Chest radiograph showed mild right sided pleural effusion.

Ultrasonography (USG) abdomen revealed a small hypoechoic lesion in sub-hepatic region of size 49x20mm suggestive of a liver abscess. Computerized Tomographic (CT) scan images confirmed loculated irregular collections in and around left lobe of liver and Reidel's lobe with small perigastric extension as well as thickening of omentum (Figure 4). Follow up chest radiography showed resolution of right sided pleural effusion by the time patient was investigated thoroughly. Possibility of liver abscess of infectious etiology was most probable diagnosis. Patient underwent an ultrasound guided fine needle aspiration of the hepatic lesion. Smears were stained with May Grunwald Geimsa (MGG) and showed ill formed collection of epithelioid cells, transformed macrophages and lymphocytes (Figure 1) with giant cells (Figure 2) seen on a necrotic background. Ziehl Neelson (ZN) confirmed presence of acid fast bacilli (AFB) (Figure 3) and a final diagnosis of tubercular hepatic abscess was rendered.

**Discussion**

Hepatic tuberculosis is not a rare disease, however isolated tubercular liver abscess is, even in a country like India...
Liver function test shows following which appropriate process though rare should be kept as a It was first PCR is another diagnostic tool that enables rapid identification of the infectious organism but is costly. Due to the limitation of resources, following radiographic imaging demonstration of AFB by ZN stain aided with similar results in simultaneously put positive control smears helped us reach definitive diagnosis of tubercular liver abscess, following which appropriate medical therapy was instituted.

**Conclusion**

Isolated tubercular liver abscess is a rare entity, particularly in immune-competent individuals. In a country like India which has nearly 25% of global incident tuberculosis cases, its possibility should be kept in mind. Global travel trends have necessitated that elsewhere in the world too tubercular liver abscess though rare should be kept as a differential along with amoebic abscess in unknown hepatic mass lesions. Symptomatology and radiologic findings may not be contributory. Diagnosis of this entity rests on the demonstration of acid fast bacilli in material obtained and FNAC is a simple minimally invasive, cost effective procedure which helps achieve this, particularly where resources are limited and modalities like polymerase chain reaction (PCR), though available are expensive.

Isolated tubercular liver abscess is a rare entity, particularly in immunocompetent individuals. Symptomatology and radiologic findings may not be contributory. Diagnosis of this entity rests on the demonstration of acid fast bacilli in material obtained. FNAC is a simple minimally invasive, cost effective procedure which helps attain the same.

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