A case report: Isolated Liver Tuberculosis

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Citation

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Abstract

Isolated liver tuberculosis is still considered a rare condition and atypical clinical presentation challenges the clinical acumen of the treating physician. There is difficulty in reaching the correct preoperative diagnosis of a nodular hepatic tuberculosis that presents as a space-occupying lesion. It is usually unsuspected and confused with primary or metastatic carcinoma of the liver. In this report, we describe a rare case of isolated liver tuberculosis without pulmonary spread.

INTRODUCTION

Tuberculosis remains an important public health problem in Turkey. Isolated liver tuberculosis (ILT) is still considered a rare condition and hepatic tuberculosis is usually associated with an active pulmonary or miliary tuberculosis ([1,2]). Liver involvement in tuberculosis is usually clinically silent. Isolated hepatic tuberculoma (syn. nodular hepatic tuberculosis, macronodular hepatic tuberculosis) is the rarest form of local hepatic tuberculosis ([3]). Tuberculosis presenting as an isolated liver tumor, without active pulmonary or miliary tuberculosis, or other clinical evidence of tuberculosis, is distinctly rare ([4]). In this report, we describe a rare case of isolated liver tuberculosis without pulmonary spread.

CASE REPORT

A 57-year-old female patient was admitted with right upper-abdominal pain and feeling of distention for a year. There was no history of exposure to tubeculosis. The patient was well and the vital signs were stable. Physical examination showed local epigastric tenderness without hepatomegaly. Laboratory data revealed normal serum hemoglobin level, a white blood cell count with slightly increased eosinophils, normal erythrocyte sedimentation rate, normal liver and renal function tests, and normal coagulation tests. Tumor markers alpha-fetoprotein, CEA, CA 19-9 and CA-125 were normal, CA 15-3 was slightly increased (25.59 U/ml; normal value < 25 U/ml).

There was no radiological finding of tuberculosis in the X-ray. Liver ultrasonography showed a 3-5 cm hyperechoic heterogeneous lesion in segment 5 of the right lobe. Computed tomography of the abdomen showed a multicystic lesion in segment 5 of the right lobe of the liver (Figures 1-2).

{image:1}

{image:2}

A percutaneous tru-cut biopsy of the liver was done but the result was inconclusive. Patient was operated for the purpose of frozen section biopsy and possibility of segmental resection. A middle upper abdominal incision was applied and a non-encapsulated, greyish-white scattered mass was seen in a large part of the right lobe of the liver. A wedge biopsy was taken for frozen section and revealed granulomatos tissue with no evidence of malignacy. Before closing the abdomen another piece of tissue was resected from the mass for a second pathological examination. Histopathological investigation revealed areas of caseous necrosis and classic tubercles (Figure 3).

{image:3}

A Ziehl-Neelsen staining showed acid-fast bacilli. After an uneventful postoperative period, the patient was discharged. Isoniazid 300mg/day, rifampicin 600mg/day, pyrazinamide 1500mg/day and ethambutol 1500mg/day were administered for two months and isoniazid 300mg/day and rifampicin 600mg/day were subsequently administered for four months. After treatment, the patient was followed up for eight months without encountering any problem.

DISCUSSION

There are three forms of hepatic tuberculosis. Diffuse hepatic involvement with pulmonary or miliary tuberculosis

is the most common form seen in 50% to 80% of patients dying of pulmonary tuberculosis. Diffuse hepatic infiltration without recognizable pulmonary involvement is the second form. The third very rare form presents as a focal/local tuberculoma or abscess. ILT is the rarest form of local hepatic tuberculosis ([5]). Kok et al ([6]) reported an overall incidence of 0.3% for isolated hepatic tuberculosis. Hepatic tuberculosis lesions that appear as masses larger than 2mm in diameter are referred to as macronodular and pseudotumoural tuberculosis. On the basis of imaging examinations alone, these lesions are virtually indistinguishable from many other focal lesions of the liver, such as hepatocellular carcinoma, metastases and Hodgkin's disease, so pathological examination is necessary for diagnosis ([3]).

Isolated hepatic tuberculosis results from tubercle bacilli gaining access to the portal vein from a microscopic or small tubercular focus in the bowel. The clinical presentation of ILT is so rare and atypical that it challenges the clinical acumen of the treating physician ([2]).

The difficulty is reaching a correct preoperative diagnosis of nodular hepatic tuberculosis that presents as a space-occupying lesion. It is usually unsuspected and confused with primary or metastatic carcinoma of the liver, as in our case. Radiological findings of hepatic tuberculosis are not specific although multiple hypodense lesions have been described on CT scan in cases of macronodular tuberculoma of the liver ([7]). The radiologic diagnosis of hepatic tuberculoma is difficult and histopathologic diagnosis is required to distinguish tuberculosis from lymphoproliferative disorder, metastatic deposits and other granulomatous disease like sarcoidosis and fungal infection. Establishing the diagnosis is not easy, especially if there is no history of previous tubeculosis exposure. The definitive diagnosis could be done with tests on histological and bacteriological evidence of tuberculosis. The histological picture of hepatic tuberculoma is usually that of a large epitehloid tumour composed of conglomerate tubercles with central caseation necrosis. Langerhans-type gaint cells may be found in the granuloma and are surrounded by lymphohistiocytic cells, plasma cells and eosinophils ([8]). In view of the nonspecific presentation and imaging appearance of the disease, a high index of suspicion is required to obtain a preoperative diagnosis ([9]). In this case, the diagnosis was established at laparotomy. In view of the rarity of hepatic involvement and the small amount of tissue obtained by percutaneous needle biopsy, a mini-laparotomy and open liver biopsy is suggested to rapidly settle the diagnosis and expedite treatment ([2]). Ultrasound-guided percutaneous liver biopsy, CT and laparoscopy are adequate methods of obtaining tissue for diagnosis. The presence of caseating granuloma is usually sufficient to establish the diagnosis. If the diagnosis is still in doubt, laparoscopy is the next investigative method of choice, as it is less invasive than laparotomy. Clinicians' reliance on laparotomy and the procedure's utilization rate is an indication of the difficulty of diagnosis ([10]). Alcantara-Payawal et al. ([11]) developed a PCR assay for the identification of Mycobacterium tuberculosis in liver biopsy specimens. The importance of establishing the correct diagnosis cannot be overstated, since untreated abdominal tuberculosis carries a 50% mortality rate ([10]).

In conclusion, preoperative diagnosis of isolated liver tuberculosis that presents as space occupying lesions is difficult. It is mostly confused with primary or metastatic carcinoma of the liver.

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