CASE REPORT

Splenic Tuberculosis – A Rare Presentation

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ABSTRACT

Tuberculosis (TB) is an important health problem in developing countries, mostly seen in immunocompromised patients. Splenic TB is rare and develops as the result of either dissemination of pulmonary or biliary TB, following either ingestion of contaminated food or infected sputum. In developed countries, it is seen in patients with human immunodeficiency virus, but it is associated with significant mortality and morbidity in developing countries. We report a case of splenic TB in a 23-year-old male who presented with fever and left hypochondriac mass. A computerized tomography scan of the abdomen showed splenic enlargement with many hypodense solid to cystic lesions with ill-defined boundary. Exploratory splenectomy was performed and histological examination revealed chronic granulomatous inflammation with numerous epithelioid cells, Langhans giant cells with foci of caseous necrosis consistent with TB. He responded well with four-drug antitubercular treatment.

Key words: Histopathology, spleen, tuberculosis

INTRODUCTION

Splenic tuberculosis (TB) is an extremely rare form of extrapulmonary TB.[1] Non-specific clinical presentation, difficulties in confirming the diagnosis, and its subsequent treatment may lead to undue delay in the management of the patient. Splenic TB is seen predominantly in immunocompromised individuals.[2]

Splenic TB presents with no specific signs and symptoms. Furthermore, there are no characteristic imaging findings on radiological examination. Therefore, it is likely to be misdiagnosed as carcinoma of spleen, splenic abscess, lymphoma, and rheumatic fever. Isolated splenic TB is rare although secondary involvement in miliary TB is common. The rate of misdiagnosis is high in the absence of any history of TB in other organs. We present a case of splenic TB in a 23-year-old male, who presented with the left hypochondriac mass with discomfort.

CASE REPORT

A 23-year-old man presented to the medicine clinics with a history of frequent fevers for the past 2 months and left hypochondriac fullness and discomfort for 15 days. There was no history of throat pain, chest pain, cough with expectoration, night sweats, weight loss, or anorexia. His urinary and bowel movements were normal. His medical history did not show any tubercular infection. There was no family history of TB and acquired immunodeficiency syndrome (AIDS). On examination, his body temperature was 38.4°C with mild-to-moderate splenomegaly.

Laboratory investigations showed normal red blood cell count, raised erythrocyte sedimentation rate (ESR) of 64 mm in the 1st h with negative Widal test. The patient was seronegative for human immunodeficiency virus (HIV) by enzyme-linked immunosorbent assay. Tuberculin test was positive with an induration of 18 mm at 72 h.

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Chest radiography revealed no abnormalities. An abdominal ultrasound scan showed an enlarged spleen with multiple hypoechoic solid foci with a well-defined outline. Computed tomography (CT) of abdomen revealed many hypodense solid to cystic splenic lesions with ill-defined boundary. No lymphadenopathy was appreciated.

A CT-guided splenic puncture and biopsy were taken. Histopathology showed a granulomatous lesion with large central caseation surrounded by Langhans giant cell, scattered epithelioid cells, and occasional lymphocytes [Figures 1 and 2]. Acid-fast staining found no acid-fast bacilli. Culture of the specimen on Lowenstein Jensen medium showed buff-colored colonies Lowenstein Jensen of *Mycobacterium tuberculosis*.

A final diagnosis of isolated TB of the spleen was made as there was no other focus of TB detected in the lung, gastrointestinal tract, or lymph nodes. The patient was started on four-drug antitubercular treatment with marked improvement in the general condition with no fever after 3 days. The patient after 24 months of follow-up showed no signs of recurrence of the disease.

DISCUSSION

TB affects multiple systems of the body, but its primary foci are in the lungs. Isolated splenic TB is a rare form of extrapulmonary TB. Few reports of splenic TB is seen in literature.[1] Immunocompromised patients with AIDS are at a high risk for splenic TB.

Splenic TB may present as a primary or secondary form. However, reports suggest that all patients with splenic TB are secondary to prior infection by the tubercle bacillus in other organs.[2] In our case, the patient denied any history of TB and there were no specific symptoms for establishing the diagnosis of splenic TB.[3] Our patient was only febrile, which corroborates with the findings of Chen and Peng.[1] Anemia, elevated ESR, increased C-reactive protein, and a positive tuberculin test helped us to reach to a conclusive diagnosis. Splenic enlargement in association with pyrexia of uncertain origin is a clinical sign commonly observed and encountered during the course of various infectious diseases, splenic infarction, and malignancies.[4,5] Splenomegaly due to splenic TB is rare and occurs commonly in an immunocompromised person. Epidemiological prevalence of splenic TB is difficult to ascertain due to few isolated case reports of the disease available in literature. In a large series of 37 cases with focal splenic lesions, Joazlina *et al*. found only four cases of tuberculous etiology.[6]

Splenic TB usually occurs by hematogenous spread of infection, as a part of disseminated disease or, occasionally due to contiguous spread of infection. Immunodeficiency

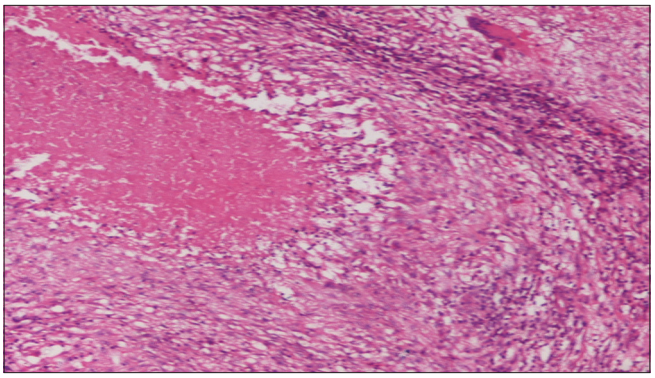

Figure 1: Section of the biopsy specimen from the splenic lesion showed a granulomatous nodule with central areas of caseation surrounded by Langhans giant cell, scattered epithelioid cells, and lymphocytes. Hematoxylin and eosin ×40

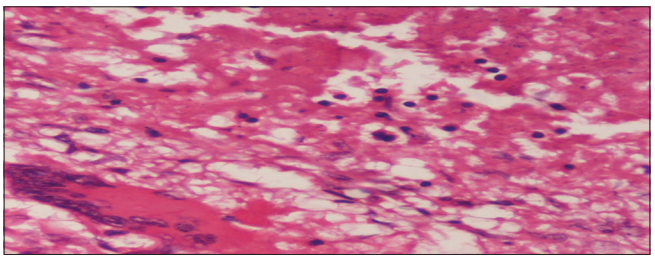

Figure 2: Histopathological examination of the biopsy specimen showing epithelioid cell granuloma with central caseous necrosis and Langhans giant cell. Lymphoid cells of white pulp of spleen are also visible. Hematoxylin and eosin ×40

is an important risk factor for splenic TB. The various immunodeficiency conditions associated with splenic TB are hematologic abnormalities, diabetes mellitus, HIV infection, organ transplantation, and chronic steroid therapy.[7,8]

The clinical presentation of splenic abscess is often non-specific, which makes the diagnosis difficult. Splenic abscess and splenic infarction should be considered in patients with fever of unknown origin and abdominal pain. Lymphoma may also present with fever of unknown origin and left hypochondriac pain, suggesting a primary disease of the spleen.[5] The other features seen in splenic TB include splenomegaly, leukocytosis, and raised ESR.

Although ultrasonography is simple, useful, and non-invasive, CT is the preferred imaging modality. CT reveals not only the presence of a splenic abnormality but it also gives an indication of its nature, the site for possible biopsy or drainage, and follow-up after treatment. The characteristic CT features of splenic TB include solitary/multiple nodular or saccular foci or hypodense areas in the spleen.[9,10] However, it has its limitations. Several diseases state present with multiple, hypodense splenic lesions on CT such as malignant lymphoma, metastatic cancer, echinococcal cysts, hemangioma, and

some infectious diseases. Fungal splenic abscesses are being increasingly recognized, especially in immunosuppressed patients and candida is the most involved fungus.[5]

The gold standard for diagnosis remains microbiological and histopathological confirmation of the tuberculous lesion in the splenic specimen obtained by fine-needle aspiration and biopsy or after splenectomy. The typical feature of splenic TB is foci of caseous necrosis along with epithelioid cells and Langhans giant cells and lymphocytes. Biopsy specimens from cervical lymph node and effusion fluid are also pathological evidence for the diagnosis.[10] Histopathological examination is the confirmatory diagnostic modality.[11] Laparoscopy has been used in the diagnosis of splenic TB and has proved to be a minimally invasive approach avoiding unnecessary splenectomy. It is recommended for any form of splenic biopsy.[6]

The first-line management of the splenic TB is considered to be antitubercular chemotherapy with a significant number of the patients responding to it.[8,9] Treatment for TB should last for more than 9 months. Standard anti-TB medication should be taken preoperatively and postoperatively, if an operation is carried out.[11] Surgery may be appropriate in subjects with ruptured spleen or if the antitubercular treatment fails.

We report this case of splenic TB in an immunocompetent male for its rarity and also to highlight the fact that these patients can be diagnosed convincingly by histopathological examination and managed by medical treatment effectively.

CONCLUSION

We report this case of splenic tuberculosis in an immunocompetent male for its rarity and also to highlight the fact that these patients can be diagnosed convincingly by histopathological examination and managed by medical treatment effectively.

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How to cite this article: Akhtar K, Haiyat S, Alam S, Rab AZ. Splenic Tuberculosis - A Rare Presentation. J Pathol Infect Dis 2019;2(2):1-3.