



Nearly Clinically Silent Splenic Tuberculosis: A Rare Case Report

Adhikari Ganga D^{1*}, Sharma Nitu¹, Guragain Sima¹, Chaudhary Amardeep², Yadav Ajay Kumar² and Paudel Sangeeta³

¹Department of Radio-Diagnosis, Imaging and Nuclear Medicine, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal

²Nuclear Medicine and Molecular Imaging Centre, Birat Medical College Teaching Hospital, Tankisinuwari, Budiganga-2, Morang, Nepal

³Department of Dermatology, Chitwan Medical College, Bharatpur, Nepal

***Corresponding Author:** Adhikari Ganga D; Department of Radio-Diagnosis, Imaging and Nuclear Medicine, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal.

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Adhikari Ganga D., et al.

Abstract

Splenic tuberculosis is rare, especially in immunocompetent patients. Often it is difficult to diagnose if presented without any symptoms. We report a case of a 63-year-old immunocompetent male complaining of subtle vague left flank pain without fever, cough, or weight loss. Ultrasonography (USG) and Computed Tomography (CT) of the abdomen revealed clustered hypoechoic lesions in the spleen. Following the diagnosis of splenic tuberculosis through gene expert and Mantoux tests, anti-tuberculous treatment was started which showed improvement after the 6-month regimen. Radiological findings are essential for diagnosis and should be correlated with clinical presentation.

Keywords: Extrapulmonary Tuberculosis (EPTB); Splenic Tuberculosis (STB); Anti-tuberculous Treatment (ATT); Mantoux Tests; Computed Tomography (CT); Fine Needle Aspiration (FNA)

Introduction

Mycobacterium Tuberculosis is a major worldwide health problem [1]. TB remains a significant public health problem in developing countries; in Western countries, it is typically seen in immunocompromised patients [2]. TB has been classified into two types based on the anatomical location: first, pulmonary TB (PTB) involving lung parenchyma and tracheobronchial tree, and secondly, extrapulmonary TB (EPTB) involving organs other than lungs, e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, meninges [3]. TB in the spleen is found to be rare however;

it is the third most common organ to be affected after lungs and liver. It has been described more frequently in males [2]. Splenic TB is often misdiagnosed due to nonspecific clinical presentation and the absence of any history of TB in other organs [4]. We present here a rare case of a 63-year-old male with solitary splenic tuberculosis and mediastinal lymphadenopathy.

Case Presentation

A 63-year-old man presented to the outpatient department (OPD) with complaints of subtle vague discomfort in his left flank for a week. There was no history of fever, cough, hemoptysis, or

chest pain. He had no other history of previous tuberculosis or any immunosuppressive disease. The patient was nondiabetic and had no recent history of contact with any communicable diseases.

The patient underwent abdominal ultrasonography, which revealed confluent or clustered hypoechoic lesions in the spleen with extracapsular extension. Contrast-enhanced computed tomography (CECT) of the chest and abdomen revealed several heterogeneously enhanced mediastinal lymph nodes, with the largest measuring 2 cm in its long axis, along with splenomegaly. There was predominantly peripherally enhancing irregular heterogeneous area in the upper and mid pole of the spleen with extracapsular extension into the peri-splenic space abutting the left hemi-diaphragm causing its mild bulge cranially. Minimal pleural collection was also seen in the left costophrenic angle (Figure 1).

USG-guided fine needle aspiration (FNA) was done, about 10-15 ml pus was aspirated and sent for polymerase chain reaction for mycobacterium tuberculosis (TB-PCR) along with a gene expert test. A Mantoux test was also done. However, TB-PCR was negative, gene expert and Mantoux test were positive for mycobacterium tuberculosis (MTB).

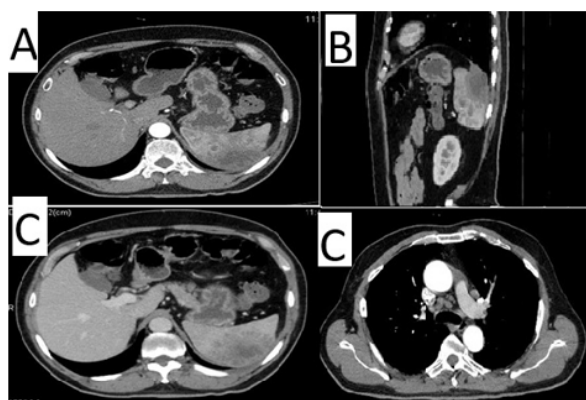


Figure 1: Axial and sagittal images of CT scan showing {A} multiple heterogenous area in spleen [B] extracapsular extension lesion [C] Splenic abscess and [D] Few enlarged mediastinal lymph nodes.

The patient was started on Anti-Tuberculosis Treatment (ATT four drug regimen). For intensive phase isoniazid, rifampin, pyrazi-

namide and ethambutol were administered for two months. The continuation phase included only isoniazid and rifampin for an additional four months, totaling six months of treatment. After completion of therapy patient was followed with USG abdomen and chest X-ray, splenic lesion/peri splenic collection, Clinical and radiological findings revealed that there was mediastinal lymph nodes subsided and patient was showing clinical improvement.

Discussion

Tuberculosis (TB) affects multiple systems of the body, the primary being the lungs. According to the World Health Organization (WHO), extrapulmonary TB constituted approximately 16% of all tuberculosis cases in 2019 [5]. Isolated splenic tuberculosis is a rare manifestation of extrapulmonary TB, with limited documentation in the literature [4]. Splenic TB usually occurs as a part of military tuberculosis. It is more common in immunocompromised patients than in immunocompetent patients [5].

Winternitz (1912) categorized splenic tuberculosis into two types: primary and secondary. The primary form, which is quite uncommon, involves tuberculosis that affects only the spleen, with the original infection resolving completely. In contrast, secondary tuberculosis of the spleen is more frequent and arises as a component of widespread tuberculosis that affects other organs [6]. S. K. Sharma, *et al.* stated that extrapulmonary involvement can occur in isolation or along with a pulmonary focus as in the case of patients with disseminated tuberculosis [7]. In our case it was isolated splenic abscess with mediastinal lymphadenopathy. Our patient was immunocompetent, did not have a fever of unknown origin plus there was no other affected site.

Gupta, *et al.* and Sharma, *et al.* reported rare cases of splenic abscess in an immunocompetent and immunocompromised patient respectively [8,9]. Our case was an immunocompetent. The patient had no history of tuberculosis in the past and no immunosuppressive disease. Ho *et al.* Many cases have been reported having splenic tuberculosis with pyrexia of unknown origin and weight loss without any pain in the abdomen [10]. In our case the chief complaint was pain in the flank region without weight loss or fever. Abbas Ali, *et al.* presented a case of splenic TB with left hypochondriac pain without cough, hemoptysis, weight loss, or fever [11]. CECT abdomen revealed diffuse lesions and multiple micronodules in the spleen with splenomegaly. Our patient's CECT showed an abscess in the spleen with peri splenic extension.

The diagnosis was made by a gene expert and Mantoux test, even though TB-PCR was negative.

As pulmonary tuberculosis, our patient also underwent an anti-tubercular regimen of four drugs for 6 months. If splenic tuberculosis does not respond to anti-tubercular therapy (ATT), the next steps involve confirming the diagnosis, assessing treatment compliance, and evaluating for drug resistance. If resistance to first-line drugs is detected, a switch to second-line anti-TB medications is necessary. Splenectomy is typically reserved for cases where there is a persistent and enlarging abscess despite adequate ATT or when a large tubercular abscess poses a risk of rupture. In such scenarios, splenectomy has been recommended particularly for solitary splenic TB with diffuse lesions or multiple nodules. [12-14]. A case of splenic tuberculosis also underwent splenectomy due to an enlarged spleen measuring 18.5 x 13.5 x 8 cm with risk of rupture but in our case the spleen was not much enlarged posing the risk of rupture plus the anti-tubercular regimen showed good clinical progress with no recurrence.

Conclusion

Although splenic tuberculosis has been reported as extremely rare, it has occasionally been reported in the literature. The splenic involvement can occur both in immunocompetent and immunosuppressed patients hence it should be considered in TB endemic areas. The radiological findings are helpful in diagnosis along with TB-PCR and microbiological tests. Additionally, anti-tuberculosis (ATT) medication should be started resulting in the disappearance of splenic abscess eliminating the need for additional therapeutic interventions.

Conflict of Interest

There were no conflicts of interest to declare.

Funding Source

No funding was obtained during the study.

Patient Consent

A written consent was obtained from patient during the study, that the work can be published without exposing the patient details.

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