

Primary splenic tuberculosis

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Introduction

Tuberculosis (TB) continues to be a major health problem worldwide, despite considerable advances in the diagnosis and treatment of the disease [1]. This disease presents with diverse clinical symptoms in the form of pulmonary TB and extra-pulmonary TB. Extra-pulmonary TB accounts for almost 15% of all cases. Among the extra-pulmonary forms, splenic TB is an unusual entity. This form of TB is normally seen as a part of miliary TB. In our case study, a patient presented with a rare form of splenic TB and managed successfully. Splenic TB is undetectable as a primary site in the body and is a rare variant of extra-pulmonary TB.

Case report

A 72 year old male, chronic smoker was admitted to hospital complaining of fever for 15 days with abdominal pain and breathlessness for 5 days. Examination revealed reduced bilateral air entry in the lungs and abdominal tenderness in the left hypochondrium.

Full blood count showed the total leukocyte count to be $15 \times 10^9/L$ with 71% neutrophil, 25% lymphocyte and 4% eosinophil on differential leukocyte count. Haemoglobin was 7.9 g/dl and platelet count was $200 \times 10^9/L$. ELISA for HIV was found to be negative. Ultrasonography of the abdomen was done and suggestive of multiple well-defined heterogeneous cystic areas in the spleen at its upper, middle and lower pole, with the largest one measuring approximately 2.9 x 2.8 x 2.0 cm, volume 8.9 cc at the mid-pole. Chest radiology (PA view) was suggestive of chronic obstructive pulmonary disease without any focus suggestive of primary tuberculosis.

The patient underwent an elective open splenectomy after correction of anaemia with multiple blood transfusions and was also given pneumococcal vaccination. Intra-operatively the spleen measured 190 x 80 x 30 mm. The outer surface was

encapsulated with multiple cystic areas. Purulent material was observed within the parenchyma on sectioning the specimen. On microscopic examination showed Langhan's giant cells with caseating granulomas was seen, suggesting a tuberculosis infection of the spleen [Figure 1].

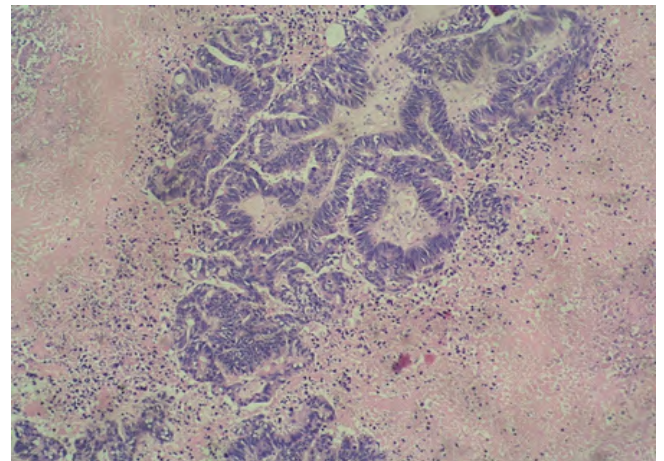


Figure 1. Histopathology of the spleen showing caseating granulomatous inflammation suggestive of tuberculosis.

Post-operative recovery was uneventful and the patient was discharged on the standard regimen of anti-tuberculosis treatment for 6 months after consultation with the Pathology department (2 months of the 4 drug regimen comprising of isoniazid, rifampicin, pyrazinamide and ethambutol, followed by 4 months of isoniazid and rifampicin only). The patient had no relapse of the disease on follow up and after completion of the treatment.

Discussion

Clinically, Tuberculosis (TB) presents as pulmonary or extra-pulmonary disease. Splenic TB (extra-pulmonary) has two forms. The first form presents itself during miliary TB, especially in immunocompromised patients. Treatment of this condition includes standard anti-tuberculosis therapy. This form may sometimes require surgical intervention such as a splenectomy [6]. The second rare form of splenic TB is the primary involvement of the spleen. Only six cases have been reported in the English, French and German literature thus far (from 1965 to 1992) [8]. In Iran, one case was reported in 2002 [9]. The patients in these cases were

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immunocompromised and presented with fever of unknown origin (FUO) [7], and the infection was limited to the spleen only. When the spleen is involved as an isolated organ, the patient may have solitary TB or a tubercular abscess. Many reported cases of splenic tubercular abscess have been found to have underlying HIV infections [1, 12, 13]. Adil et al reported a series of ten immunocompromised individuals with splenic TB [14]. All of them had at least one other site or organ affected by the TB infection. In the present case, the patient had neither a history of TB nor showed evidence of TB in any other organ. However, the patient's wife had been infected with TB three years earlier and had completed treatment. Singh et al. reported 4 non-HIV patients with isolated splenic TB [2]. Some of them had an abnormal haematogram with thrombocytopenia, but the present case had neither an abnormal haematogram nor evidence of thrombocytopenia. As the spleen was enlarged and carried a risk of rupture, a splenectomy was carried out.

Histopathological examination was necessary for aetiological diagnosis. Tubercular infection can be histopathologically identified by typical caseation along with granuloma of epithelioid cells and Langhan's giant cells. Case reports of isolated solitary splenic TB, where microbiological and molecular studies have confirmed the diagnosis, are rare. This patient's diagnosis which was confirmed by histopathological examination shows that solitary splenic TB can occur without the classical symptoms of cough, haemoptysis, fever and weight loss. The spleen is the third most commonly infected organ in miliary TB (lung 100%, liver 82%, spleen 75%, lymph nodes 55%, bone marrow 41%) [7]. We believe that solitary splenic TB with diffuse lesions and multiple nodules should not be treated by only anti-tuberculosis medications and early splenectomy, as suggested by some authors [7,18].

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Key Points:

- Among the extra-pulmonary forms of tuberculosis, splenic tuberculosis is very unusual and mostly found in immunocompromised patients.
- A strong suspicion of this diagnosis should be kept in mind when all other forms of extra-pulmonary tuberculosis are excluded by investigations.