

## **Case Report**

# **Splenic Tuberculosis: A Case Managed Successfully in a Resource Limited Rural Setup**

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**Abstract:** Splenic tuberculosis per se in an immunocompetent individual is very rare. We came across a case of a middle aged, immunocompetent female who presented with fever, weight loss, and left hypochondriac pain. She had earlier been treated for pulmonary tuberculosis one year back and declared cured after six months of antitubercular chemotherapy. Ultrasonography and computed tomography of abdomen revealed multiple hypoechoic lesions in the spleen. After the diagnosis of splenic tuberculosis, the patient was started on combination of antitubercular drugs under category two. She had a favourable response with antitubercular chemotherapy. Follow-up ultrasonography of abdomen after 3 months of antitubercular therapy showed significant resolution of splenic hypoechoic lesions. We recommend that, splenic tuberculosis should be considered as a diagnostic possibility in patients belonging to endemic areas for tuberculosis, with splenic involvement, especially in those having a past history of tuberculosis, even though the individual is immunocompetent. This case highlights the fact that, these patients can be diagnosed by non-invasive imaging and managed by medical treatment effectively in a setting with limited resources.

**Keywords:** Antitubercular treatment, Extrapulmonary tuberculosis, Hypoechoic lesions, Splenectomy, Splenic tuberculosis

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## **INTRODUCTION**

Splenic Tuberculosis (TB) is rare clinical condition. This form of TB is normally seen as part of miliary TB and is rarely present as an isolated entity. The diagnosis is often delayed due to its non specific clinical presentation and difficulties in confirming the diagnosis. In almost all the reported cases the diagnosis was made on radiologic examination followed by pathologic examination of fine needle aspirate, splenic biopsy or splenectomy specimen.

Here, we report a case of TB of spleen where diagnosis was made on clinical grounds and other non invasive investigational modalities, without having to resort to splenectomy and treated with antitubercular therapy alone.

## **CASE REPORT**

A 40 year old non diabetic woman from a low socioeconomic class, presented with a history of intermittent low grade fever, pain in left hypochondriac

region and progressive weight loss for about 3 months. There was no history of cough, sputum production, haemoptysis, breathlessness or other gastrointestinal symptoms. One year back, she had been treated for sputum positive pulmonary TB under category -1 for 6 months and declared cured. On examination, she was thin built and poorly nourished having fever with high temperature especially during evenings and pallor.

Per abdominal examination was normal except for tenderness in the left hypochondriac region on deep palpation. There was no hepatosplenomegaly. Systemic examination did not reveal any significant abnormalities. Complete haemogram showed normocytic anemia and high erythrocyte sedimentation rate (ESR) of 80mm in the first hour. Blood biochemical profiles were within normal limits. Sputum AFB was negative. Chest x ray showed bilateral upper lobe fibrosis. Montoux test was positive (16mm). Elisa for HIV was negative. Ultrasound of abdomen showed multiple hypoechoic lesions with calcification in spleen

(Fig. 1). Computed tomography (CT) abdomen revealed multiple hypodense lesions in the spleen. There was no

bowel thickening or free fluid in the abdomen (Fig. 2).



Fig. 1: Ultrasonogram of spleen with hypochoic lesions



Fig. 2: Abdominal CT scan - multiple hypodense areas (white arrows) in spleen.

A CT – guided fine – needle aspiration biopsy and splenectomy could not be performed due to the unwillingness of the patient despite proper counselling.

Therefore, a provisional diagnosis of splenicTB was made on the basis of radiological investigations and previous history of pulmonary TB.



Fig. 3: Significant resolution of hypochoic lesions of spleen on repeat abdominal ultrasound (after 3 months of therapy)

The patient was put on anti-tuberculosis drugs under category 2 of Revised National Tuberculosis Control Programme (RNTCP) regimen (isoniazid 600mg, rifampicin 450 mg, ethambutol 1200mg, pyrazinamide 1500mg, streptomycin 750mg thrice weekly on alternative days). After 2 weeks of drug therapy, she became afebrile and gained weight with an improvement in general condition. Treatment continued for 3 months (initially five drugs for 2months, followed by four drugs for 1 month). A repeat ultrasound of abdomen (done after 3 months) showed significant resolution of splenic lesions (Fig. 3).

Treatment continued with three drugs (isoniazid 600mg, rifampicin 450 mg, ethambutol 1200mg thrice weekly on alternative days) for the next five months. She completed 8 months of treatment. She is on our regular follow up and no signs of recurrence have been found till date.

## DISCUSSION

TB is a systemic infectious disease. It is classified as pulmonary, extrapulmonary or both. Extra pulmonary TB is more common in immunocompromised host. In the order of frequency, the extrapulmonary sites most commonly involved in TB are, the lymph nodes, pleura, genitourinary tract, bones and joints, meninges, peritoneum and pericardium [1].

Splenic TB is a very rare form of extrapulmonary TB in immunocompetent individuals [2]. Splenic TB presents in two forms. First forms as a part of miliary TB. Spleen is the third organ involved in miliary TB (lung 100%, liver 82%, spleen 75%, lymph nodes 55%, bone marrow 41%) [3]. The second form is the primary involvement of spleen. Splenic TB occurs as a result of primary infection or secondary to the previous infection of TB in other organs [4]. In our case, it is secondary to her previous pulmonary TB infection.

Splenic TB is, generally difficult to diagnose, since there are no specific symptoms and signs [2]. Fever, weight loss and left hypochondriac pain were the only symptoms in our case. Ultrasound examination is simple, non invasive and useful in the diagnosis of splenic TB and in the assessment of therapeutic response. The common ultrasound findings suggestive of splenic TB are, multiple small (<1cm), round hypoechogenic images, which are frequently hypodense on abdominal CT. Other findings include splenomegaly which is considered to be the most common feature of splenic involvement [5]. The ultrasound and CT abdomen of our patient also showed these findings.

Histopathological examination is essential to confirm the diagnosis. The typical manifestation is caseation along with granulomas of epithelioid cells. So, for a final diagnosis, CT guided biopsy of splenic tissue

which is an emerging method nowadays or splenectomy is needed [6].

In the present case, due to lack of facilities and the patient's reluctance to undergo surgery, splenectomy or CT guided biopsy could not be performed. In view of the patient's previous history of pulmonary TB, along with the present contributory clinical, laboratory parameters (elevated ESR, positive tuberculin test) and radiological features, the diagnosis of splenic TB was made.

The first line of management is the antitubercular drugs. Surgery is appropriate in subjects having rupture of spleen or if antitubercular drugs fail. [6]

Our patient was started on antituberculosis treatment and monitored by serial imaging. The patient responded well in the form of disappearance of fever and abdominal pain and weight gain. There was a significant resolution of hypoechoic lesions of the spleen on subsequent ultrasound imaging.

There are a few case reports which support use of antituberculosis therapy in splenic TB, when diagnosis was made without splenectomy and other invasive procedures [7-9].

## CONCLUSION

Although a rare entity, splenic TB must be invariably considered in patients with previous history of pulmonary TB and hypoechoic lesions in the spleen, since TB is endemic in India for a long time. Even if TB cannot be confirmed, therapeutic trial of antitubercular drugs may be life saving. The case being reported is one of the very few reported cases where diagnosis was made only by clinical features and radiological investigations. It highlights that a radiological imaging can replace the need for more invasive diagnostic surgical procedures and help in the planning of therapy. In addition, a good response to medication will indirectly help to confirm splenic TB.

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