

# Isolated Tuberculosis of the Spleen: A Rare Clinical Entity

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## Citation

S Dalal, Nityasha, R Dahiya, Prashant. *Isolated Tuberculosis of the Spleen: A Rare Clinical Entity*. The Internet Journal of Surgery. 2007 Volume 16 Number 1.

## Abstract

Tuberculosis continues to be a major health hazard, inspite of notable advances in its diagnosis and treatment. Tuberculosis of the spleen is an extremely rare clinical entity. It often poses diagnostic difficulties as preoperative confirmation of diagnosis is not easy. We came across a young adult immunocompetent male from good socio-economic background, who presented with weight loss and left hypochondriac pain. Ultrasonography and CT scan of the abdomen revealed a single hypoechoic lesion in the spleen. Splenectomy was performed and the sample was sent for histopathological examination which revealed large areas of caseation surrounded by multiple granulomas of epithelioid and Langhans type of giant cells consistent with splenic tuberculosis. No primary focus of infection was detected in the lungs or any other organ.

## INTRODUCTION

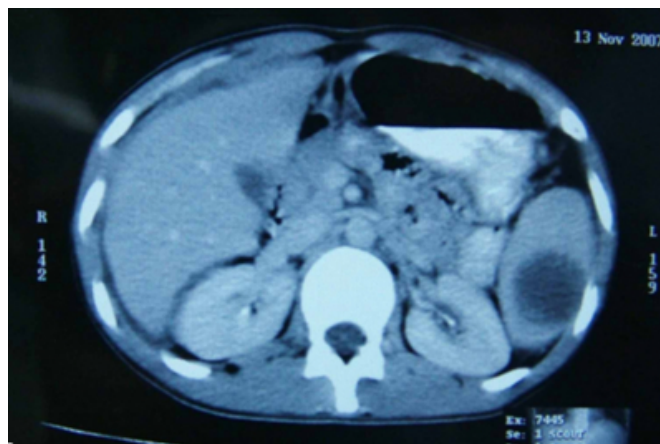
Tuberculosis continues to be a major health hazard, especially in third world countries. This is considered to be a systemic disease which presents with varied clinical manifestations involving pulmonary or extrapulmonary systems. Extrapulmonary tuberculosis accounts for almost 15% of all cases of tuberculosis. Among the extrapulmonary forms, splenic tuberculosis is an exceptionally rare condition. This form of tuberculosis is normally seen as a part of miliary tuberculosis and is rarely the isolated presenting feature. We are reporting a case of splenic tuberculosis which presented as an isolated entity.

## CASE REPORT

An immunocompetent adult male aged 22 years presented with history of intermittent low grade fever, pain in the left hypochondrium and progressive weight loss for about 2½ months. On examination, he was having mild pallor. Abdominal examination revealed a moderately enlarged and tender spleen. Routine investigations, i.e. haemogram and chest X-ray, were normal except the ESR which was raised to 60 mm/hour. Ultrasonography of the abdomen revealed a single hypoechoic lesion in an enlarged spleen, while CT scan revealed a single low-density area consistent with splenic abscess, with the rest of abdominal organs as normal (Fig.1).

## Figure 1

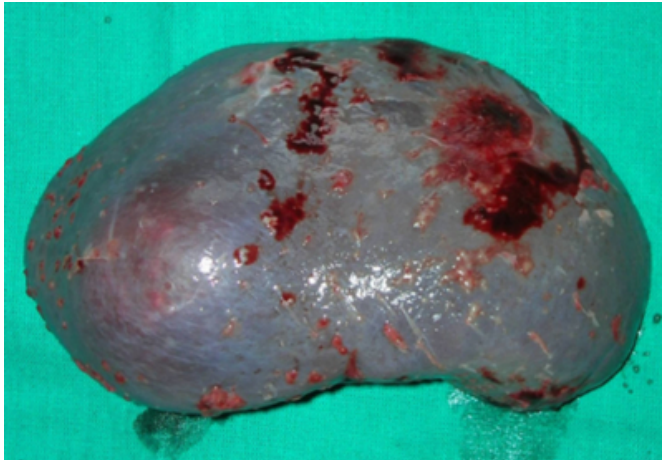
Figure 1: CT scan film showing a single splenic abscess.



On the basis of radiological investigations, a provisional diagnosis of splenic abscess was made and splenectomy was carried out. On gross examination of the specimen, a single whitish, cystic nodule was seen on the external surface of the spleen, which was rising above its surface (Fig.2).

**Figure 2**

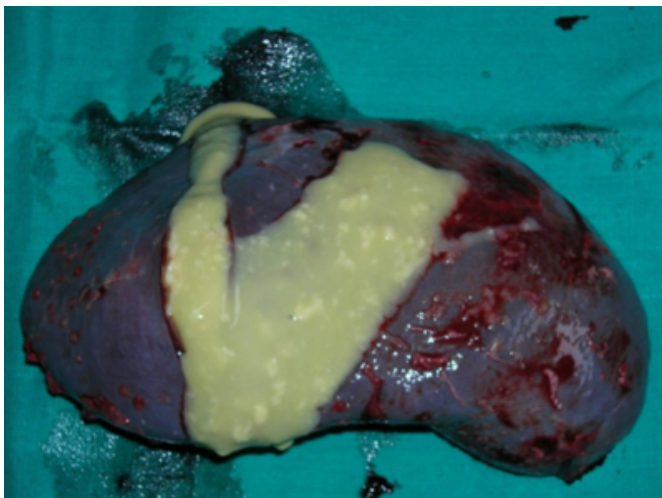
Figure 2: Single whitish, cystic nodule on the external surface of the spleen.



On cut section, the lesion was cystic, containing in it about 30 cc of thin, whitish pus and resembling a clinical diagnosis of cold abscess (Fig.3).

**Figure 3**

Figure 3: Incised specimen showing single splenic abscess



Hematoxylin and eosin stained section of the diseased area showed large areas of caseation surrounded by multiple granulomas of epithelioid cells and Langhans giant cells in the splenic pulp around the abscess. The surrounding splenic parenchyma was within normal limits. The patient was put on antituberculous treatment. With splenectomy and antitubercular treatment, the patient showed remarkable improvement in terms of weight gain and becoming afebrile.

## DISCUSSION

*Mycobacterium tuberculosis* continues to be one of the world's most prevalent and deadly infectious microbes, killing about three million people every year. Clinically,

tuberculosis may present as a systemic disease involving pulmonary and extrapulmonary systems. Of all the organs, the lungs are predominantly affected. Involvement of the spleen in tuberculosis can occur in the miliary/disseminated form of the disease. However, isolated tuberculosis of spleen is a very rare disease.<sup>1</sup> When the spleen is involved as an isolated organ, the patient may present with tuberculoma or tubercular abscess. Many reported cases of splenic tubercular abscess are found to have underlying HIV infection leading to immunocompromised states.<sup>2,3</sup> Only sporadic cases of splenic tuberculosis have been reported in the literature in immunocompetent individuals.<sup>4</sup>

Adil et al. reported a series of 12 immunocompetent individuals with splenic tuberculosis but all of them had one or more extra site of tuberculous involvement along with the spleen.<sup>5</sup> Generally, these cases present with mild pyrexia and chronic weight loss and are diagnosed during investigational work up for PUO. Rarely, splenic tuberculosis has also been diagnosed incidentally during laparotomy that was carried out for abdominal trauma.<sup>6</sup>

Diagnosis of isolated splenic tuberculosis is difficult and often delayed because of vague clinical presentations. In most cases, diagnosis can be suspected by radiological investigations but confirmed by pathologic examination of fine needle aspirate or of the splenectomy specimen. Abdominal ultrasonography is an affordable, non-invasive imaging modality for a case of possible splenic TB, and is especially relevant as a screening tool. The most common findings on USG of the spleen are single or multiple focal hypoechoic lesions. However, since USG is operator-dependent, it can have lower sensitivity in some situations. On the other hand, CT scan is most beneficial in the setting of doubtful ultrasound and to rule out involvement of other intraabdominal organs, as it offers the ability to image the entire abdomen in a single examination.<sup>7</sup>

The patient in consideration was an immunocompetent young adult male who presented with complaints of pain in the left hypochondrium, low-grade fever and weight loss. USG examination revealed a hypoechoic lesion while CT demonstrated a hypodense area in the spleen. However, a similar radiological picture is also seen in patients having fungal or other pyogenic infections. So splenectomy was carried out for making an exact tissue diagnosis as well as for therapeutic purposes. The patient improved dramatically with splenectomy and ATT. The case is being reported to highlight these points:

- Isolated splenic tuberculosis is very rare, especially in immunocompetent individuals.
- CT scan of the abdomen is a very useful tool for preoperative diagnosis of this condition.
- Although rare, splenic tuberculosis should be included in the differential diagnosis of PUO, regardless of the HIV status of the patient.

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