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Isolated tuberculous splenic abscess in an immunocompetent individual

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ABSTRACT

Tuberculosis (TB) of the spleen is an extremely rare clinical entity particularly among immunocompetent persons. We report a case of isolated tuberculous abscess of spleen in a 13-years-old boy. No primary focus of infection was detected in lungs or any other organ. The patient was treated by splenectomy after a therapeutic failure with standard antituberculous medication.

1. Introduction

Tuberculosis is an important health problem in developing countries, with varying clinical presentations depending on the organ or system involved. Extrapulmonary TB constitutes 15%–20% of all cases; abdominal TB comprises a mere 3% involving in particular ileocaecal region, mesenteric lymph nodes and the peritoneum[1,2]. Splenic tuberculosis occurs in two forms. The first is its involvement during military tuberculosis, especially in immunocompromised patients, which is not rare. The second form is primary involvement of spleen which is extremely rare, even rarer if it occurs in immunocompetent person[3]. We report a case of primary TB of spleen in an immunocompetent young male presenting as abscess.

2. Case report

A 13 years old male child presented with pain in hypochondrium on the left side with generalized features of malaise and persistent low grade fever for the last 6 months. Physical examination was essentially normal except mildly tender and painful palpable lump up to 5 cm below the left costal margin. Hematological investigations showed normal

total and differential leukocyte count but high erythrocyte sedimentation rate of 100 mm in the first hour. Chest X-ray was within normal limits. Ultrasonography (USG) of the abdomen showed enlargement of spleen with hypochoic lesion. Computed tomography (CT) scan of abdomen showed a single splenic abscess of (20×10×10) cm with no involvement of lymph nodes, any other abdominal and thoracic organs including lungs. Virtually it was an isolated splenic abscess. A clinical diagnosis of amoebic liver abscess, pyogenic or fungal abscess was kept. Fine needle aspiration cytology revealed necrotizing granulomatous inflammation. Zeihl Neelson (ZN) staining for AFB was positive. Patient was put on anti tuberculous treatment (ATT). After 10 weeks of therapy, patient did not respond and splenectomy was contemplated.

Splenectomy was performed under general anaesthesia. The excised specimen weighed 2 070 g and measured (20 ×10×10) cm in size, consistent with CT scan findings. The external surface was congested and covered with exudative flakes. On cutting open straw coloured fluid came out of the cavity. Internal surface revealed a cystic structure with numerous fibrous septae (Figure 1). Almost whole of the spleen was replaced by the lesion except for few traces of normal splenic tissue.

Haematoxylin & Eosin stained microsections showed a cystic wall lined by inflammatory granulation tissue and large number of epithelioid cell granulomas with Langhans' giant cells and caseation necrosis (Figure 2). ZN staining for acid fast bacillus using 20% H₂SO₄ was positive.

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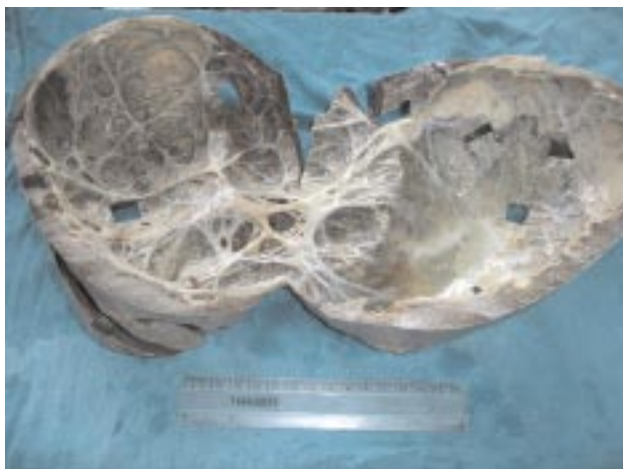


Figure 1. Cut open specimen of spleen showing large cystic space with septae inside.

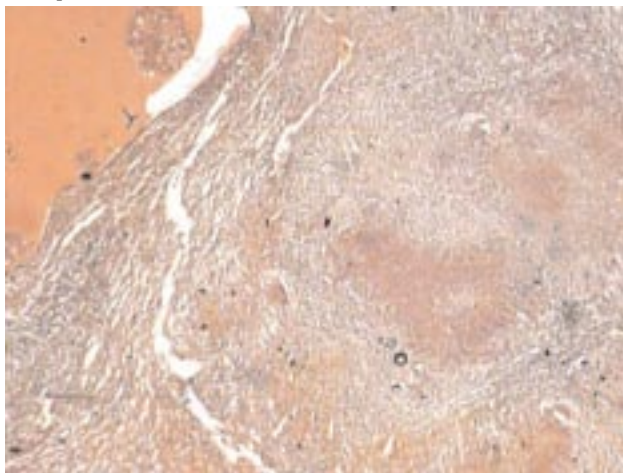


Figure 2. Microscopic picture showing the caseous tuberculous granulomas (H&E Stain×10).

3. Discussion

Tuberculous infection, most commonly caused by *Mycobacterium tuberculosis*, continues to be one of the most prevalent and deadly infection in the world today, even worse in developing countries. It presents as a systemic disease involving pulmonary and extra-pulmonary organs, with a predilection for lungs. However, isolated TB of spleen is a very rare disease. When spleen is involved, the lesion presents as tuberculomas or tuberculous abscess[4].

Majority of the case reports of splenic tuberculosis are described in immunocompromised patients[4]. There are only sporadic cases of splenic TB in immunocompetent patients[5]. The case being reported was an immunocompetent individual and all the investigations including that for HIV and Hepatitis B were negative.

Adit *et al* reported a series of 12 immunocompetent individuals with splenic tuberculosis where the simultaneous involvement of one or more extra site/organ was observed in all the patients[5]. Generally, these cases present with mild pyrexia and chronic weight loss and are diagnosed during investigational work up for persistent low grade pyrexia. Rarely, splenic tuberculosis has also been diagnosed incidentally during laparotomy that was carried out for abdominal trauma[6].

Diagnosis of isolated splenic tuberculosis is relatively

difficult and often delayed because of vague clinical presentations. In most cases, diagnosis is suspected by radiological investigations, however, can only be confirmed by pathologic examination of fine needle aspirates or with the splenectomy specimen. Abdominal ultrasonography is a cost effective, non-invasive imaging modality for a case of suspected splenic TB, and is especially relevant as a screening tool. However, since USG is operator-dependent, it can have lower sensitivity in some situations. On the other hand, CT scan is more diagnostic than ultrasound. Further, the entire abdomen and thorax can be imaged simultaneously to rule out involvement of other organs[7]. In the differential diagnosis of solitary splenic masses; splenic cysts, hematoma, fungal infection, pyogenic and amoebic abscess, infarcts, crohn's disease, vascular tumor, lymphoma and metastatic tumor should be taken into consideration[2].

Due to response to medical therapy, ATT remains the first line treatment for splenic tuberculosis, splenectomy is rarely required. A treatment similar to that for other extrapulmonary sites is recommended. A few controlled studies strongly suggest a 12 month regime with more prolonged treatment deemed necessary. However, surgical procedure may be required if there is abscess formation, if biopsy specimens are non-diagnostic or when the patient is not responding to treatment[1,2].

In our case the whole of the spleen was replaced with abscess and patient was not responding to ATT, hence splenectomy was carried out for confirmation of the diagnosis as well as for therapeutic purpose. There was uneventful recovery after this procedure, however ATT was continued for 8 months and the patient showed full recovery and is on regular follow up.

Although rare, splenic tuberculosis should be included in the differential diagnosis of a splenic mass having pyrexia of uncertain origin, regardless of the immunological status of the patient.

Conflict of interest statement

We declare that we have no conflict of interest.

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