CASE REPORT

Splenic Tuberculosis Presenting as Pyrexia of Unknown Origin

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SUMMARY

We report a case of a previously healthy 38-year old lady who presented with prolonged fever and hepatosplenomegaly. Intensive investigations were performed for pyrexia of unknown origin which revealed negative. CT scan of the abdomen showed multiple hypodense lesions which did not respond to broad-spectrum antibiotics. Percutaneous biopsy of the splenic lesion revealed granuloma formation and Langhan's giant cells suggestive of TB. She responded well with anti- TB medication but required extended treatment duration of 24 months due to persistence of the splenic lesion on repeated CT scans. This case illustrates a very rare clinical entity of isolated splenic TB with a therapeutic dilemma following incomplete resolution, despite prolonged treatment.

KEY WORDS:
Tuberculosis, Spleen, Pyrexia of unknown origin

CASE REPORT

A previously well 38-year-old Malay woman presented with a three months history of intermittent high-grade fever, chills and rigors, lethargy, loss of appetite and weight loss of 10 kg. There was no prolonged cough, haemoptysis, shortness of breath or night sweats. She had no history to suggest underlying connective tissue disorder and no recent history of travelling. There was no significant family history. Her husband was diagnosed with pulmonary tuberculosis one year prior to the onset of her symptoms but completed nine months of anti-tuberculosis (TB) therapy.

Physical examination revealed a cachexic and pale woman. Her blood pressure was 122/72 mmHg, pulse rate was 113bpm and temperature was 38°C. Abdominal examination revealed an enlarged liver and a moderately enlarged spleen, which was non-tender with a smooth surface. Examination of the other systems was unremarkable. Blood investigations showed a normocytic, normochromic anaemia with haemoglobin of 9.5g/dL, white cell count of 4.4x 10^9/L and platelet count of 361 x 10^9/L. Erythrocyte sedimentation rate (ESR) was elevated at 113 mm/hr. Further tests including her liver, renal and coagulation profile were normal. Chest radiograph was normal. Thorough investigations of blood, urine, sputum and fungal cultures were negative. Sputum was negative for acid fast bacilli (AFB) thrice and Mantoux test was negative. Viral, melioidosis and connective tissue serologies revealed negative results. Blood film for malarial parasite, Widal Weil Felix (WWF) and retroviral serology were also negative.

Abdominal Computer Tomography (CT) scan subsequently revealed hepatosplenomegaly with multiple round hypodense areas, which were only seen in the spleen, highly

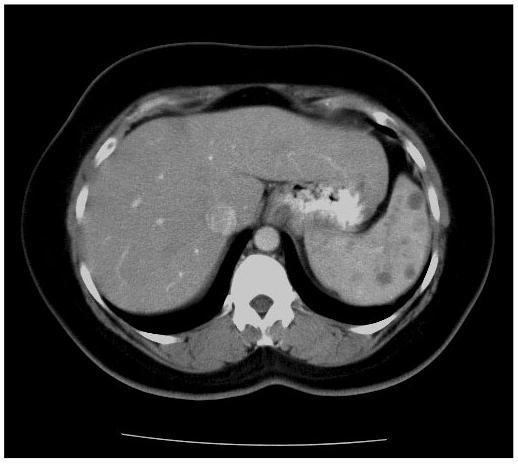

Fig. 1: CT abdomen showing an enlarged spleen with multiple hypodense lesions of various sizes

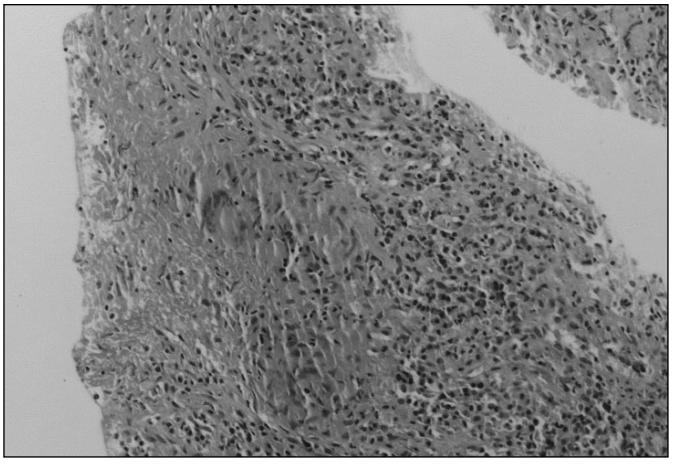

Fig. 2: Histopathology from spleen biopsy showing granuloma formation and multinucleated giant cells surrounded by mature lymphocytes and scaterred neutrophils

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suggestive of splenic abscess (Figure 1). She was treated with broad-spectrum antibiotics including intravenous Cefipime. However, she failed to show significant improvement with persistent high grade fever and continuous weight loss. An ultrasound guided splenic biopsy was done after three weeks of continuous antibiotics which revealed multiple fragments of tissue with areas of granuloma formation and Langhan's giant cells suggestive of TB (Figure 2). Unfortunately, the specimen was not cultured for TB.

She was subsequently commenced on anti-TB medication of isoniazid, rifampicin, pyrazinamide and ethambutol. There was immediate improvement and she became afebrile. Her appetite also improved gradually accompanied by weight gain. Her ESR normalised and serial CT scans done at 12 and 15 months post-treatment showed reduction in the size and number of splenic lesions. The anti-TB treatment was continued in view of the unresolving lesions. After 20 months of therapy, there was no further change in both the size and number of the lesions and therefore, the treatment was discontinued at 24 months. She remains well and is currently continuing follow-up at our clinic.

DISCUSSION

Extrapulmonary TB constitutes 15-20% of all cases of TB, and abdominal TB comprises a mere 3%. In our extensive literature review, isolated splenic TB has been reported, rarely, but consistently in immunosuppressed patients, patients with preceding pyogenic infection and splenic abnormalities like previous trauma, sickle cell disease and from a contiguous disease in the pancreas[2]. Our patient was previously well and the only risk factor was contact with her previously TB-infected husband.

Splenic TB may present as hypersplenism, splenic abscess or as a solitary splenic lesion [1]. Very rarely splenic rupture may present as abdominal pain. There were no other signs of lymphadenopathy or other skin lesions.

The diagnosis of splenic TB is difficult in patients with no evidence of pulmonary involvement. A non-invasive and useful examination is CT scan which may show, as in our patient, multiple hypodense areas in the spleen. However, other conditions may reveal the same findings including other abscesses, metastasis from malignant melanoma, breast and lung cancer, hemangioma, echinococcal cysts, sarcoidosis and malignant lymphoma. Some have reported splenic TB to have round or ovoid nodules, or pseudo-tumour appearance, but none which is pathognomonic of this rare entity[2]. Ultrasonography may be useful for localizing lesions for aspiration[1] or in centers which lack other imaging facilities.

A better diagnostic procedure is ultrasound or CT-guided percutaneous fine needle aspiration biopsy. This has been shown to be safe and accurate to diagnose focal splenic lesions[2]. The diagnosis of splenic TB in our patient was made by histopathology from the ultrasound-guided biopsy specimen of the splenic lesion.

Our patient was initially treated with broad-spectrum antibiotics with a suspicion of bacterial splenic abscess. However, her condition deteriorated and subsequently showed remarkable response to the anti-TB therapy. As in other extrapulmonary manifestations, patients with splenic abscess respond well to anti-TB, probably due to the excellent tissue penetration and relative paucity of organisms in the tissue[3]. Therefore, it has been recommended that the treatment should be similar to that of pulmonary disease. A few controlled trials of treatment in patients with extrapulmonary TB however strongly suggest a 12-month regime with more prolonged treatment deemed necessary. In our patient, the splenic lesions showed initial improvement in terms of number and sizes with anti-TB medications. After 12 months of treatment the patient was clinically well, but the lesions failed to disappear as we had anticipated and therefore the anti-TB medication was continued due to concern about recurrence. Following that, there was very slight improvement and treatment was ceased at 24 months.

Due to the response to medical therapy, anti-TB treatment remains the first line treatment for splenic TB and splenectomy is rarely required[3]. However, this surgical procedure may be necessary if there is abscess formation, if biopsy specimens are non-diagnostic or when the patient is not responding to treatment[3].

Our patient remained well and has not shown any reactivation. The role of splenectomy for our patient may be considered in the future if there is recurrence of the disease.

We report a very rare medical entity of splenic TB in an immunocompetent patient and the accompanying difficulty in the duration of management. In Malaysia where TB is endemic, we conclude that although splenic TB is rare, it should be included in the differential diagnosis of fever of unknown origin with splenomegaly, especially when there is history of exposure to TB.

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