Tubercular splenic abscess in immunocompetent patients: a rare entity

Subrat K. Raul · Sashi Tiwari · Vijay Raina · Rajeev Sharma · Molly Joseph

Received: 25 June 2008 / Accepted: 29 August 2008
© Association of Surgeons of India 2009

Abstract Splenic abscess is an unusual, potentially life threatening condition associated with septicaemic conditions. Splenic abscess due to tuberculosis is a rare entity, specifically seen in immunocompromised individuals. However splenic tubercular abscess in immunocompetent individuals is rarer. We present two cases of splenic tubercular abscess in immunocompetent persons where diagnosis of tuberculosis was made after splenectomy. The aim of presenting these cases is to stress the fact that tuberculosis should be considered as a differential diagnosis in all cases of splenic abscesses in areas where tuberculosis is endemic.

Keywords Splenic abscess · Tuberculosis

Introduction

Splenic abscess is an uncommon entity, its diagnosis is often difficult, and the ideal mode of treatment uncertain [1]. Tubercular splenic abscess is still a rare entity, mostly seen in immunocompromised hosts [2]. Tubercular splenic abscess in immunocompetent persons is extremely rare [3]. The clinical presentation is varied and a diagnosis in most cases is made postoperatively following a splenectomy [4]. In spite, of the availability of excellent imaging modalities and percutaneous intervention techniques, a preoperative diagnosis is often very difficult to make. The rarity of the condition especially in immunocompetent persons and the varied clinical presentation has led us to present the following cases.

Case 1

A 50-year-old immunocompetent lady presented with history of low grade, intermittent fever and abdominal pain of one-month duration. A CECT scan revealed splenomegaly with large cystic necrotic areas within the spleen with small amount of perisplenic fluid collection, reported as splenic abscess. Her blood and pus sent for culture did not grow any organism. She already had received a host of antibiotics but the fever persisted. Physical findings revealed a palpable spleen with marked guarding and tenderness. Biochemical and haematological investigations revealed iron deficiency anaemia and thrombocytosis.

Laparotomy revealed a huge spleen almost converted to a bag of pus, densely adherent to the diaphragm and parietal wall.

A splenectomy was performed. Biopsy was reported as tubercular abscess of spleen. The pus sent for AFB stain

S. K. Raul¹ · S. Tiwari¹ · V. Raina¹ · R. Sharma¹ · M. Joseph²

¹Department of Surgery, Unit 1,

²Department of Pathology,
St Stephen's Hospital, New Delhi, India

S. K. Raul (✉)

E-mail: subratraul@hotmail.com

was positive. Postoperatively, patient had fever for a few days which subsided after antitubercular drugs were started. The patient was discharged from the hospital on 12th post-operative day.

Case 2

A 22-year-old immunocompetent boy was admitted with history of continuous, dull aching pain over left upper abdomen for the last 1 month, without any history of fever or vomiting. Clinical examination was unremarkable except for mild splenomegaly with tenderness over the left hypochondrium. A CECT (Fig. 1) scan revealed splenomegaly with multiple abscesses with areas of infarcts. He had already received antibiotics and a pus culture was reported as sterile. Clinically there was no change in his condition for the last 2 weeks before presentation. Laparotomy revealed, enlarged spleen with areas of multiple abscesses and patchy

Fig. 1 The CT scan of splenic abscess

Fig. 2 The cut section of spleen showing necrotic areas

infarcts over the surface. Splenectomy was performed. A cut section of the spleen revealed necrotic material throughout (Fig. 2). Biopsy (Fig. 3) of spleen was reported as tuberculosis of spleen. Postoperatively patient was started on antitubercular drugs and discharged on the 10th day.

Discussion

Splenic abscesses are rare, with only about 500 cases reported in literature [1, 2]. These abscesses were lethal prior to the era of antibiotics. In recent times the incidence of splenic abscesses has increased due to the growing number of immunocompromised patients. The pathogenesis of splenic abscess include, haematogenous spread of a remote infection, haemoglobinopathy resulting in embolisation/infarction, chemotherapy and other immunodeficient states, trauma, and contiguous infection from adjacent organs.

Splenic tubercular abscess is a rare entity specifically seen in immunocompromised individuals especially in HIV positive patients [3]. It is rarer still in immunocompetent individuals [4], the few cases reported have usually revealed solitary abscesses in the spleen. A few reported series of splenic abscesses are however silent on tuberculosis as a cause [5, 6].

The classical presentation of fever with chills, left upper abdominal pain with marked leucocytosis as is seen in majority of splenic abscesses is usually not seen in tubercular splenic abscess [2, 4]. The presentation in these cases is usually non specific, with pyrexia of unknown origin, pain, anaemia, thrombocytosis, persistent thrombocytopenia [7] and constitutional symptoms like weight loss and malaise. Blood cultures are usually negative, while in cases of non tubercular splenic abscesses, blood cultures have been found to grow organisms in almost 80% of cases [8]. Splenomegaly as a physical finding is usually present, as seen in both of our patients. In most cases of splenic tubercular

Fig. 3 Histopathology slide of spleen showing granuloma with necrosis

abscess the leucocyte count is usually normal. Most cases of tubercular splenic abscess usually do not have foci of tuberculosis in any other organ. Both of our cases mentioned above did not have leucocytosis; while one had intermittent fever with pain, the other only had pain.

Diagnosis of tubercular splenic abscess has usually been made following splenectomy [1, 2, 4]. In spite of the progress in modern imaging and cytology; a preoperative diagnosis of tubercular splenic abscess is difficult in the absence of tubercular foci in any other organ. Ultrasound and more so CT scan have excellent sensitivity and specificity in diagnosing splenic abscess, but tuberculosis as an aetiology is often difficult. Most cases are diagnosed histopathologically following splenectomy.

Management options are varied [1, 2, 4–6]. Percutaneous aspiration of pus for culture and AFB staining followed by antitubercular therapy has been reported. In case there is clinical improvement a splenectomy can be avoided. However if there is no clinical improvement with the above option, splenectomy is required. Laparoscopy has also been advocated in today's era of minimal invasive surgery, as a diagnostic as well as therapeutic modality for management. All these cases have to be subjected to standard antitubercular therapy for at least a period of one year following the diagnosis.

We do feel that tuberculosis should be considered as a differential diagnosis in all cases of splenic abscesses in immunocompetent individuals, especially in countries like India where tuberculosis is still endemic.

Conflict of interest The authors do not have any disclosable interest

References

1. Jolobe OMP (1995) Splenic abscess. *Br J Surg* 82:1001
2. Sabnis AA, Ponsky JL (2007) Management of splenic abscess. *Shackelford's Surgery of the Alimentary Tract*; Vol II; 6th Edition: Saunders Elsevier, Philadelphia: 1818–1820
3. Gupta A, Hunjan PS, Jain SK, Kaza RC, Kumar V (2006) Tubercular splenic abscess in an immunocompetent patient – a rare entity. *Southeast Asian J Trop Med Public Health* 37(6): 1196–1198
4. Sharma S, Dey AB, Agarwal N, Nagarkar KM, Gujral S (1999) Tuberculosis: a rare cause of splenic abscess. *J Asso Physicians India* 47(7):740–741
5. Tung CC, Chen FC, Lo CJ (2006) Splenic abscess: an easily overlooked disease? *Am Surg* 72(4):322–325
6. Chiang IS, Lin TJ, Chiang IC, Tsai MS (2003) Splenic abscesses: review of 29 cases. *Kaohsiung J Med Sci* 19(10): 510–515
7. Amodio J, Biskup D, Rivera R, Shah S, Fefferman N (2005) Tuberculous splenic abscess in a neonate with thrombocytopenia. *Pediatr Radiol* 35(9):887–890
8. Arruabarrena I, Bermeja MC, Ojeda E, Cosme A, Garmendia G (1998) Incidence and clinical features of splenic abscesses with special reference to tuberculous etiology in a general hospital. *Gastroenterol Hepatol* 21:479–482