

Case Report

Splenic abscess due to brucellosis

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Abstract

Splenic abscess due to *Brucella* spp. is extremely rare. We report a case of a splenic abscess due to *Brucella* spp. in a 61-year-old male patient. *Brucella* slide and tube agglutination tests (Wright) were positive while blood culture and culture from splenic tissue yielded negative results. The abdominal ultrasonography revealed a hypoechoic intrasplenic mass 15x12 mm in diameter at the middle portion of the spleen. The splenic lesions disappeared after prolonged treatment for 7 months with a combination of doxycycline, and rifampicin, followed by TMP-SXT. *Brucella* spp. should be considered in the differential diagnosis of splenic abscess in countries where brucellosis is endemic. The results of this case and literature review shows that a conservative approach using optimum antibiotics alone without surgical intervention can be successful in the treatment of patients with splenic brucellosis.

Key Words: Brucellosis, splenic abscess, treatment

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Introduction

Brucellosis is a common zoonosis, which has particularly high prevalence in Mediterranean countries [1]. It produces a multisystemic illness that can present with a broad spectrum of clinical manifestations and complications, but splenic abscess is a rare and serious complication.

In this article, a case of *Brucella* splenic abscess that was treated only by antimicrobial therapy is reported.

Case Report

A 61-year-old man was referred with a couple of months' history of fever arthralgia, weight loss, nausea, vomiting, chills and night sweats. He had no history of consumption of unpasteurized milk products. On physical examination his axillary temperature was 36°C with normal cardiac and pulmonary findings, and hepatosplenomegaly was not detected.

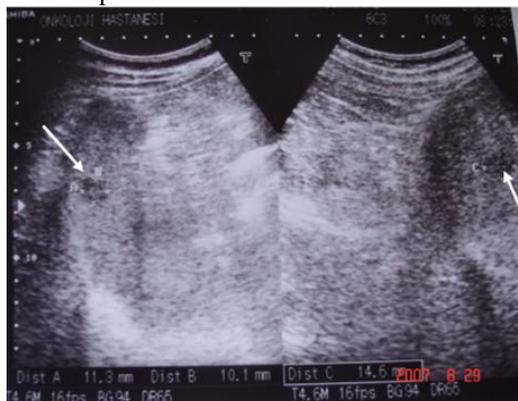
Before he was admitted to our hospital with these complaints, he had gone to another hospital. The result of the Wright agglutination test conducted there was 1/80; therefore, brucellosis was excluded.

Laboratory tests conducted in our hospital revealed the following results: hemoglobin 12.7 g/dl; leukocyte count 5300/mm³ (predominance PMNLs); CRP 9.04 mg/dl (N: 0-0.8); and erythrocyte sedimentation rate

(ESR) 56 mm/h. Total bilirubin level was 1.05 mg /dl (N: 0.1-2), ALT 38 IU/L (N: 0-54), AST 48 IU/L (N: 0-41), GGT 40 IU/L (N: 0-50), LDH 352 IU/L (N: 100-200), albumin 3.7 g/dl (N: 3.5-5), globulin 4.4 g/dl (N: 2.0-3.5), alkaline phosphatase 154 IU/L (N: 38-126). Chest X-ray and Echocardiography were normal.

Brucella slide and tube agglutination tests (Wright, at 1/640) were positive. Abdominal ultrasonography coincidentally revealed a hypoechoic intrasplenic mass 15x12 mm in diameter at the middle portion of the spleen (Figure 1).

Figure 1. Abdominal ultrasonography showing a hypoechoic intrasplenic mass 15x12 mm in diameter at the middle portion of the spleen.



Samples of blood culture and tissue culture from the splenic abscess yielded negative results.

The patient was thought to have splenic abscess due to brucellosis. Oral doxycycline (200 mg/day) and rifampicin (600 mg/day) were started as therapy and TMP-SXT (0.64-3.2 g/day) was added when the splenic abscess did not regress (Figure 2). After one month of treatment, CT results showed two lesions on the spleen, although clinical conditions of the patient gradually improved (Figure 2). At the same time Wright agglutination titers increased 1/1280.

Figure 2. Two spleen lesions, after one month of treatment in a CT scan despite the improvement of the clinical condition of the patient.



With these findings, the total course of treatment was considered to be long about 7 months. MR results were taken at the end of the treatment. At the end of the treatment, the lesions had disappeared (Figure 3).

Figure 3. MR results were showed complete resolution of the splenic lesions.



Discussion

Splenic abscess occurs rarely. In a large autopsy series, the incidence of splenic abscess was reported to be between 0.2 and 0.7 percent [2,3]. The most common etiologic agents of splenic abscess are streptococci, staphylococci and gram-negative bacilli (especially *E. coli*). Splenic abscess due to brucellosis is rarely seen and is generally caused by *B. melitensis* and *B. suis*. A definite diagnosis of brucellosis can be made by recovering the organism from blood, body fluids, tissue specimens or serologically. While in 17% of cases diagnosis is made by culture, diagnosis in 85% of cases is made by serologic tests, especially in endemic areas [2]. A Turkish study reported splenic abscess in brucellosis in 1.6% cases [4].

Most patients with hepatic and splenic abscess due to brucellosis have chronic infection. Chronic hepatic and splenic involvement is characterized by tissue calcification. Suppurative complications may develop after many years of dormancy [2,5]. Interestingly, few reports have described the development of splenic abscesses during the course of acute brucellosis [1-8].

The prognosis of splenic abscess is good with early diagnosis and treatment. However, the diagnosis is difficult to make because the clinical symptoms are insidious (as in our case). Use of ultrasonography and CT has greatly facilitated the diagnosis of splenic abscess. The sensitivity of CT and ultrasonography is 96% and 76% respectively [2].

The mortality rate of splenic abscess is 100% without therapy [2]. The best therapeutic approach for splenic abscess due to *brucella spp.* is unknown. In the presence of hepatosplenic abscess related to chronic brucellosis, medical therapy alone has achieved a good

early response in only 20-40% of cases because systemic or local symptoms persisted [5,6].

Duration of the medical therapy must not be less than 6 weeks. In the literature some of the patients had taken therapy for 5-6 months [5]. Patients with hepatic and splenic abscess may require percutaneous drainage or splenectomy [9]. In cases of multiple or a large solitary abscess, splenectomy is preferable; the percutaneous drainage with antimicrobial therapy has decreased the necessity of splenectomy in recent years [2].

Although surgical treatment is an option, medical treatment is very common. Successful medical treatment of acute *brucella* splenic abscess with a combination of antibiotics has been reported in our country and in other parts of the world [2-4,6].

Prolonged medical treatment in combination with serial abdominal ultrasonography can increase the chance of cure without surgical intervention in brucella splenic abscess. Surgical treatment must be considered in patients when splenic abscess does not respond to antibiotic treatment.

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