Journal of Microbiology and Infectious Diseases / JMID
2012; 2 (4): 168-170
doi: 10.5799/ahinjs.02.2012.04.0067

CASE REPORT

A case of splenic infarction associated with brucellosis which resolved with antimicrobial treatment

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ABSTRACT

Brucellosis is an unusual cause of splenic infarction. Only a few cases have been reported worldwide, mostly associated with brucellosis. Herein, we reported a 36-year-old animal-husbandry woman having a splenic infarction associated with brucellosis. She applied to the emergency department with complaints of fever, chills, weight loss, nausea, vomiting and arthralgia. Her laboratory findings included leukopenia, anemia, and elevated liver enzymes. Abdominal computerized tomography revealed splenic infarction. Brucella standard tube agglutination test was 1/160. *Brucella melitensis* was grown in blood culture in the seventh day of hospitalization. The patient was commenced on doxycycline and streptomycine. *J Microbiol Infect Dis 2012;2(4): 168-170*

Key words: Brucellosis, splenic infarction, fever

Antimikrobiyal tedavi ile gerileyen dalak infarktının eşlik ettiği bir bruseolloz olgusu

ÖZET

Bruselloz nadiren dalak infartktına sebep olur. Dünyada az sayıda olgu bildirilmiştir ve bunların çoğunluğu bruselloz ile beraberdir. Burada 36 yaşında hayvan bakıcılığı yapan, brusellozla beraber dalak infarktı olan bir kadın hasta sunuldu. Hasta ateş, üşüme-titreme, iştahsızlık, bulantı, kusma, eklem ağrıları ile acil servise başvurdu. Laboratuvar bulgularında lökopeni, anemi ve karaciğer enzim yüksekliği tespit edildi. Batın tomografisinde dalak infarktı tespit edildi. Brusella standart tüp aglütinasyon testi 1/160 olarak bulundu. Yatışının 7. gününde kan kültüründe *Brucella melitensis* üremesi oldu. Hasta doksisiklin ve streptomisin ile tedavi edildi.

Anahtar kelimeler: Splenik infarkt, ateş, *Brucella melitensis*

INTRODUCTION

Splenic infarcts may occur from embolic diseases, atherosclerosis, arteritis, splenic artery aneurysm, sickle-cell anemia, or mass lesion compressing splenic vasculature, pancreatic masses.[1,2] In patients with splenic infarction, infections due to infective endocarditis and malaria may often be seen; however, it has been reported in rare cases due to brucellosis.[3,5] Herein, we presented a rare case of splenic infarction with brucellosis.

CASE

A 36-year-old animal husbandry woman applied to the Emergency Department (ED) with fever, chills, fatigue and seven kg weight loss within 20 days, and her nausea, vomiting and arthralgia complaints had increased for the last three days. In her medical history, she had applied to Aksaray State Hospital, with complaints of nausea, fatigue and abdominal pain approximately 40 days before. It was determined that she had anemia and splenomegaly by abdominal ultrasonography (US). She was referred to Erciyes University Hospital, where her abdominal computerized tomography (CT) scan revealed splenic infarction, gall bladder stones and pelvic congestion. She was followed by General Surgery department for four days. Then, she discharged from the hospital by her will. Her symptoms continued and then she applied to Kayseri Training and Research Hospital Emergency Department, in which her physical examination revealed the patient with an axillary

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Received: 04 June, 2012 Accepted: 02 August, 2012

temperature of 39.1°C. She had weakness, and her conjunctivas were pale, her epigastrium and left upper quadrant had tenderness. No positive physical examination findings were determined in other systems. In her laboratory tests; leukocyte count was 2600/mm^3 (neutrophil count 1600/mm^3), hemoglobin was 10.8 g/dL, aspartate aminotransferase (AST) was 142 U/L, and alanine aminotransferase (ALT) was 74 U/L, lactate dehydrogenase (LDH) was 486 U/L, erythrocyte sedimentation rate was 22 mm/hour, C-reactive protein was 66 mg/dL (normal range 0-6). Other laboratory findings were in normal limits. Abdominal US showed only splenomegaly, but abdomen CT revealed splenic infarction (Figure 1). No thrombotic tendency (proteins C and S, lupus anticoagulant, prothrombin time, activated partial thromboplastin time) was observed. Rose Bengal test was positive and standard tube agglutination and Coombs tests were 1/160 and 1/320, respectively. *Brucella melitensis* was isolated from blood culture in the seventh day of admission. Transthoracic echocardiogram showed no lesions of the valves. Doxycycline 200 mg/day for 45 days and streptomycine 1 g/day for 21 days for brucellosis were administered. Her temperature decreased to normal limits on fourth day of treatment and her complaints such as abdominal pain and fever improved. In the post-treatment follow-up after two months, the spleen was in normal view on magnetic resonance imaging.

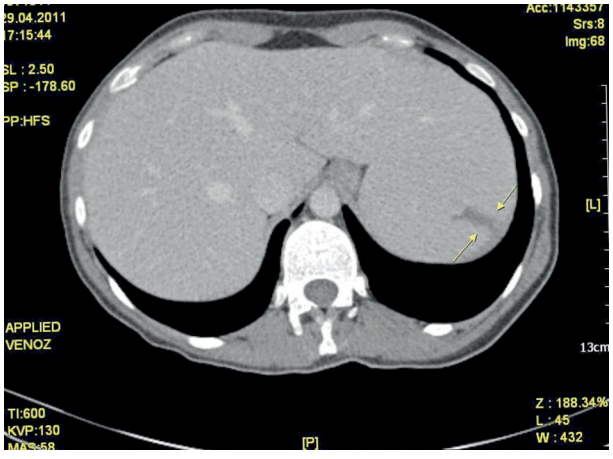

Figure 1. Splenic infarction in abdominal computerized tomography

DISCUSSION

The exact incidence of splenic infarction may be underestimated because the diagnosis is difficult and the infarction is often overlooked.[5] Although the etiology and presentation of splenic infarction has highly altered since the time of Osler, it remains an important diagnosis that must be recognized as it often brings an important underlying disease to attention.[3] Abdominal or left flank pain is the most common symptoms (80%), and left upper quadrant tenderness is the most common sign, but it may also arise from a pain in other part of abdomen. This case had a history of application to ED for abdominal and back pain, but when she was applied to our clinic, the abdominal pain and fever were prominent symptoms. In a study investigating the causes of splenic infarction, septic emboli were found between 4% and 34%. The most frequently reported diseases were cardiac embolism and blood diseases (antiphospholipid syndrome, protein C and S deficiency). In this case, proteins C and S, lupus anticoagulant, prothrombin time, activated partial thromboplastin time were normal. Three case reports of splenic infarction due to EBV infection have previously been reported; two with coexisting hematologic disease (sickle cell trait and spherocytosis) and one with the transient induction of antiphospholipid antibodies associated with acute EBV infection.[6] The most common infectious cause of splenic infarct is septic emboli related to infective endocarditis, and it is also seen as a rare complication of malaria.[4] Her transthoracic echocardiography findings were non-diagnostic. Up to date, two cases of splenic infarct associated with brucellosis have been reported.[4,7] In patients with splenic infarction, elevated transaminases are less frequently observed, but elevated LDH levels are determined in 71% of all.[3] However, hepatic involvement is also a common finding in patients with brucellosis.[8] And elevated ALT and LDH levels were observed in this case. Impaired liver function is more likely due to brucellosis; however, elevated LDH level may be due to infarction of the spleen. Although leukocytosis has been reported in 56-58% of the patients, in this study, leukocyte count was measured to be 2600/mm^3.[3] In our patient, transaminases were high (AST: 142 U/L and ALT: 74 U/L) and the LDH level was slightly higher (494 U/L). In blood count, mild anemia and thrombocytopenia with mild leukopenia and relative lymphocytosis is often seen. The incidence of leukopenia ranges from 3% to 82% in patients with brucellosis.[8] In this patient white

blood cell count was lower (2600/mm^3) and anemia (10.8 g/dL) was present.

Here, a case of splenic infarction, a rare presentation in patient with brucellosis, was presented. In patients with splenic infarction, brucellosis should be considered as well.

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