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SELÇUK TIP DERGİSİ

Brusellanın Alışılmamış Bir Sunumu: Pansitopeni

Unusual Manifestation of Brucellosis: Pancytopenia

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Özet

Akut brusellozun nadir görünümünden ve ender hemotolojik komplikasyonundan biri olan pansitopeniye sahip bir hasta sunuyoruz. 29 yaşında bayan hasta ateş yüksekliği ve pansitopeni nedeniyle hastaneye yatırıldı. Brusella standart tüp aglutinasyon testi positif bulundu ve kan kültüründe Brusella melinentis üredi. 6 haftalık kombine doksisiklin ve streptomisin antibiyotik tedavisini takiben hastanın tamamı ile iyileştiği gözlendi. Brusella pansitopeninin nadir bir nedeni olarak akılda tutulmalı ve bir an önce tedavi edilmelidir.

Anahtar kelimeler: Bruselloz, pansitopeni, ateş yüksekliği

Abstract

We report a patient with pancytopenia which is an unusual manifestation and a rare hematologic complication of acute brucellosis. A 29-year-old female patient was hospitalized with fever and pancytopenia. Brucella standard tube agglutination test was found to be positive and cultures from blood yielded growth of Brucella melitensis. The patient completely recovered by the sixth week following combined antibacterial treatment of doxycycline and streptomycine. Brucella should be considered as an uncommon cause of pancytopenia and should be treated immediately.

Key words: Brucellosis, pancytopenia, fever.

INTRODUCTION

Brucellosis can present with various hematologic manifestations ranging from a fulminant state of disseminated intravascular coagulopathy to subtle hemostatic alterations (1). Leucopenia is a common manifestation of acute brucellosis; however, pancytopenia is a rare finding (2-4). Bone marrow findings in cases of brucellosis reveal normocellularity, hypercellularity, hemophagocytosis, or granuloma (5). Hypersplenism, hemophagocytosis or granulomatous changes in the bone marrow may be responsible for pancytopenia occurring during brucellosis (1). We report a case of brucellosis in a previously healthy 29-year-old woman who presented with fever and pancytopenia. The patient recovered with resolution of these complications, following six weeks of antibacterial therapy.

CASE

A 29-year-old female patient was admitted to our clinic with a 2-week history of fever, malaise and weight loss. On admission, the patient was febrile to 39.3 degrees Celsius, with an initial blood pressure of 90/50 mmHg, a pulse rate of 110 beats /minute and a respiratory rate of 22 breaths /minute. Cardiovascular examination revealed regular first and second heart sounds with a grade 3/6 systolic murmur throughout the pericardium. Chest examination revealed normal breath sounds. Abdominal examination revealed palpable splenomegaly at 2 cm below the left costal margin. Blood cell count and biochemistry findings on admission are shown in Table 1 and Table 2. Her peripheral blood smear showed anisopoikilocytosis, mild hypochromia with decreased erythrocyte, platelet and leukocyte counts. Splenomegaly was confirmed by abdominal ultrasonography (the spleen was measured 16 cm in longitudinal axis). Blood and urine cultures were obtained after consulting to the infectious diseases department and meropenem 3 gr/day was initiated empirically. Bone marrow was normocelluler. Since no blastic or atypical cells were seen in bone marrow examination, acute leukemia had been excluded. After the undulant fever was determined on 3 days follow-up, we learned that the patient was used to consume unpasteurized dairy products. Brucella tube agglutination test was performed and found positive at a titer of 1/2560. Brucella melitensis was isolated from blood cultures. The patient was diagnosed as brucellosis and pancytopenia was thought to be secondary to brucellosis. She was administered doxycycline 200 mg/day and streptomycine 1 gr/day. Body temperature returned to normal on the third day of treatment. The clinical picture rapidly improved, the hemogram returned to normal limits by the third week of treatment. By the sixth week of treatment, she had no complaints and the size of spleen was in normal limits in abdominal ultrasonography. The patient was discharged and followed

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Table 1. Pre-treatment and post-treatment hematological values

	Pre-treatment	Post-treatment
White blood cells (N: 4500-10500/µL)	1090/µL	5600/µL
Neutrophil	380/µL	3350/µL
Hemoglobin (N:11.0-18 g/dL)	6.8 g/dL	9.6 g/dL
Hematocrit % (N: 35-60%)	21.9 %	29.0 %
Platelets (N: 150000-450000/µL)	96000/µL	210000/ µL

N: normal value

up for six months at regular one month intervals but did not experience any relapse.

DISCUSSION

Brucellosis is a zoonotic infection caused by small gram-negative coccobacilli of the genus Brucella (6). The source of infection is consumption of unpasteurized milk or dairy products from infected animals as in our patient. It is endemic in the Mediterranean region, the Middle East, Latin America and parts of Asia and Africa (7). Also it is still an important infectious disease with high morbidity in Turkey. Brucellosis is a multisystem disease with a broad spectrum of clinical manifestations (8). Hematological findings like mild anemia and leukopenia have been frequently associated with acute brucellosis, but pancytopenia and thrombocytopenia are less frequently seen (1). The pathogenesis of pancytopenia in brucellosis is poorly understood, but it seems to be multifactorial. Bone marrow suppression, histiocytic hemophagocytosis, hypersplenism, intravascular coagulation and peripheral immune destruction of thrombocytes play roles (9). Pancytopenia which is the result of hypersplenism has been reported in various publications. Splenomegalies is seen 20-40% of patients with brucellosis and have been detected 86-88% of pancytopenic brucellosis patients (10-13). Bone marrow suppression, hemophagocytosis,intravascular coagulation were not seen in our case so pancytopenia was thought to be secondary to hypersplenism. In the study of Akdeniz et al. on 233 brucellosis cases in Turkey reported that 8% of patients had pancytopenia (1). The study of hematological changes during active course of brucellosis from Al-Eissa et al. on 110 children showed that 14% of patients had pancytopenia (9). In bone marrow examination, 20% of cases were found to be hypercellular and 28% normocellular (14). We detected normocellularity on the bone marrow examination in our case. Issa and Jamal reported that significantly high titres of brucella agglutination test correlated with severity of the disease, frequency of hematological findings and positively of blood culture (15).

Brucella infection may cause pancytopenia and fever, mimicking a primary hematological disease that is reversible after appropriate antimicrobial therapy. In conclusion, brucella should be considered as an uncommon cause of pancytopenia and should be treated immediately.

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Table 2. Pre-treatment and post-treatment biochemical values

	Pre-treatment	Post-treatment
Urea (N: 10-50 mg/dL)	19 mg/dL	10 mg/dL
Creatinine (N: 0-1.5 mg/dL)	0.6mg/dL	0.5mg/dL
Aspartate Aminotansferase (N: 4-34 U/L)	126 U/L	50 U/L
Alanine Aminotansferase (N: 4-34 U/L)	67 U/L	44 U/L
Lactate dehydrogenase (N: 125-243 U/L)	597 U/L	255 U/L
Calcium (N: 8.0-10.4 mg/dL)	7.2 mg/dL	8.0 mg/dL
Sodium (N: 135-148 mmol/L)	127 mmol/L	136 mmol/L
Potassium (N: 3.5-5.5 mmol/L)	3.3 mmol/L	5.0 mmol/L
Prothrombin time (N: 10-12.9/sn)	14.5 /sn	12.5/sn

N: normal value

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