A Case of Brucellosis Presenting with Severe Thrombocytopenia

Esragül AKINCI, Hürrem BODUR, Çiğdem ERBAY, Mustafa Aydın ÇEVİK,
Ayşe ERBAY, Aylin ÇOLPAN

Clinics of Infectious Diseases and Clinical Microbiology, Ankara Numune Hospital, Ankara, TURKEY

ABSTRACT

Thrombocytopenia is one of the rare hematologic complication of brucellosis. Herein a case of brucellosis with severe thrombocytopenia was reported. The patient was admitted to hematology service with epistaxis, ecchymoses, fever, thrombocytopenia (0.6 x 10^3/μL) and anemia. His initial diagnosis was idiopathic thrombocytopenic purpura. Corticosteroid treatment was started and erythrocyte and platelet suspensions were transfused. Despite this treatment clinical symptoms and laboratory disorders were not improved. No significant pathology was detected in the examination of bone marrow aspiration. On the seventh day, *Brucella abortus* was yielded from his blood cultures. Steroid was stopped and rifampicin plus doxycycline started. His clinical symptoms were disappeared and laboratory findings improved (thrombocyte count: 205 x 10^3/μL) at the second week of the antibiotic treatment. This case was interesting showing us that thrombocyte count might decrease to very low levels in brucellosis. So that, especially in the endemic areas, brucellosis should be kept in mind for the etiology of fever and thrombocytopenia.

Key Words: Brucellosis, Thrombocytopenia.

ÖZET

Ağır Trombositopeni ile Seyreden Brusellozis Olgusu

Trombositopeni brusellozisin nadir görülen hematolojik komplikasyonlarından biridir. Bu yazıda, ağır trombositopeni ile birlikte seyreden bir brusellozis olgusu sunuldu. Hasta, burun kanaması, ekimoz, ateş, trombositopeni (0.6 x 10^3/μL) ve anemi bulguları ile hematoloji kliniğine kabul edildi. ‹lk tanısı idiyopatik trombositopenik purpura olan hastaya kortikosteroid tedavisi başlandı ve trombosit süspansiyonu verildi. Bu tedaviye rağmen klinik ve laboratuvar bulgularında düzelme olmadı. Kemik iliği aspirasyonunda önemli bir patoloji tespit edilmedi. Kan kültürlerinde yedinci günde *Brucella abortus* üremesi üzerine steroid tedavisi kesildi, rifampisin ve doksisiklin başlandı. Antibiyotik tedavisinin ikinci haftasında hastanın klinik ve laboratuvar bulguları (trombosit sayısı: 205 x 10^3/μL) düzeldi. Bu olgu, brusselloziste trombosit sayısının sıfıra yakın değerlere düşebileceğini göstermesi bakımından önemlidir. Özellikle endemik bölgelerde, ateş ve trombositopeni etyolojisinde burusellozis akılda bulundurulmalıdır.

Anahtar Kelimeler: Brusellozis, Trombositopeni.

Turk J Haematol 2003;20(1): 43-45

Received: *06.11.2001* ***Accepted:*** *05.01.2002*

INTRODUCTION

The hematologic disorders of brucellosis are anemia, leucopenia and thrombocytopenia. Severe thrombocytopenia presenting with bleeding is very rare. In brucellosis, thrombocytopenia may be due to hypersplenism, intravascular coagulation, depression of bone marrow, hemophagocytosis and granulomas. It was detected that 75% of the patients with brucellosis have small granulomas in bone marrow[1,2]. In this report, a case of brucellosis with severe thrombocytopenia was presented.

A CASE REPORT

Twenty-three-year-old male was admitted to hematology service with fever and severe epistaxis. He had two-months history of weakness, night sweetening, arthralgia and fever. Epistaxis had appeared for the last six days. His fever was 38°C and blood pressure 100/70 mmHg. There was ecchymoses on his extremities. Hemoglobin was 8.09 g/dL, erythrocyte 2.38 x 10^6/μL, leukocyte 6900/mm^3 (neutrophile 47%, lymphocyte 42%, monocyte 11%), thrombocyte 0.6 x 10^3/μL, median thrombocyte volume (MTV) 12 fL, sedimentation rate 27 mm/h, CRP > 5.48 mg/dL, serum iron 89 μg/dL (27-144) and iron binding capacity 174 μg/dL (77-420). His liver enzymes were high (AST: 56 U/L, ALT: 51 U/L). Haemostatic tests, fibrin degradation products, immunoglobulins and LDH were in normal ranges. He had microscopic hematuria. An increase in megakaryocytes and erythroid activity was detected. Idiopathic thrombocytopenic purpura (ITP) was thought and prednisolone (120 mg/day) was started. Transfusion of thrombocyte (28 units) and erythrocyte (2 units) suspensions was performed. Despite the treatment no improvement was detected in clinical and laboratory findings. On the seventh day, *Brucella abortus* was yielded from the blood cultures of the patient and he was transported to the Infectious Diseases Service. *Brucella* tube agglutination test was performed and found positive at a titer of 1/1600. Steroid treatment was stopped and specific therapy for brucellosis (rifampicin 600 mg/day + doxycycline 200 mg/day) was started. A week later his fever was resolved, thrombocyte count and hemoglobin level increased (89 x 10^3/μL and 11.5 g/dL). At the end of the second week thrombocyte count was 205 x 10^3/μL and hemoglobin 12.2 g/dL. The patient was discharged and six weeks treatment for brucellosis was planned.

DISCUSSION

Brucellosis is an important medical problem in developing countries. The hematologic disorders due to brucellosis are anemia, leukopenia and thrombocytopenia. Thrombocytopenia was reported at a ratio of 1-8% in brucellosis and rarely caused bleeding[3]. It can be seen as hemorrhage of mucosa, skin, gastrointestinal truct or vagina, epistaxis, hematuria or hemoptysis[4]. In our case the count of thrombocyte was near zero. Epistaxis, hematuria and ecchymoses were detected in the patient.

The mechanism of the hematological disorders in brucellosis may be hypersplenism, intravascular coagulation, bone marrow supression due to septicemia, hemophagocytosis, granulomas and peripheral immune destruction of thrombocytes[2-7]. In our case, granulomas and hemophagocytosis weren't detected in the examination of bone marrow aspiration. His hemostatic parameters were not associated with intravascular coagulation. Because absence of splenomegaly and leucopenia, thrombocytopenia wasn't thought to be due to hypersplenism. An increase in megakaryocytes in bone marrow and MTV in peripheral blood was thought us that thrombocytopenia was related to immune destruction of thrombocyte in the peripheral blood. We didn't need to do anti-platelet antibody test. The relation of anti-platelet antibody titre with degree of thrombocytopenia is very low and the negativity of anti-palatelet antibody does not exclude immune thrombocytopenia[3]. In addition, mostly immune thrombocytopenia is improved with steroid treatment. In our case, des-

pite steroid, thrombocyte count has not increased properly. On the fifth day of the steroid it was 11 x 10^3/µL. After the treatment of brucellosis hematologic disorders were improved and fever was disappeared.

In that case, anemia was a result of epistaxis and hematuria. Iron and iron binding capacity were in normal ranges.

We want to emphasise here that in a patient with fever and severe thrombocytopenia brucellosis should be kept in mind, especially in endemic areas.

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Address for Correspondence:

Esragül AKINCI, MD

Çiğdem Mahallesi, Seğmen Sitesi,
A Blok No: 15
Karakusunlar, Ankara, TURKEY

e-mail: *mikro@tr.net*