Acute Thrombocytopenic Purpura in a Child with Brucellosis

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Abstract

A 11-year-old girl presented with acute thrombocytopenic purpura and a painful right hip. The findings of the bone marrow aspiration were compatible with idiopathic thrombocytopenic purpura. She was treated with oral steroids and all her symptoms disappeared. Later, she returned with recurrence of hip pain and serum agglutination tests performed at the time of initial hospitalization were strongly positive for brucellosis. She was successfully treated with doxycycline and gentamicin. Review of literature revealed only 2 cases of childhood brucellosis presenting with acute thrombocytopenic purpura.

This case highlights one of the many unusual presentations of brucellosis and emphasizes the need for a high index of suspicion in endemic areas.

Key words: Acute thrombocytopenic purpura, brucellosis

Case report

An 11-year-old girl was admitted with petechiae and purpura over her skin. She also complained of pain in her right hip. She gave a history of an upper respiratory tract infection in the previous week. On physical examination she did not look ill, though she had an oral temperature of 38°C. Scattered petechiae & purpura were found all over her body, about 20 in number, and a few petechiae on her soft palate. The rest of the examination was normal with no lymphadenopathy or organomegaly. The right hip was not swollen or acutely inflamed but did have limitation of movements. CBC was as follows: Hb 11.6g/dL, WBC 12000/cumm, with 80% PMN. Platelets 41000/cumm. Urinalysis was normal except for 5-6 RBC/hpf. Kidney function tests were normal. Blood cultures and antinuclear antibodies were negative. ASO titer was 166. The platelet count dropped to 2,000/cumm on the following day. A bone marrow aspiration was performed, showing cellular hyperplasia and large megakaryocytes, compatible with idiopathic thrombocytopenic purpura. Oral corticosteroid was started as prednisolone 2mg/kg/24 hrs. in 4 divided doses. Her platelet count started rising on the fifth day after beginning treatment. Her joint pains improved and completely disappeared so that she could walk without limping. She was discharged from the hospital on the 7th day. Prednisolone was tapered and then stopped. A week later she was well with no complaints. She had a normal physical examination, and a platelet count of 145,000/cumm.

Three weeks after being discharged from the hospital she was readmitted with fever and a painful right hip. The pain was severe, she was unable to walk and could not tolerate slightest movements of the hip. She had an oral temperature of 39°C. No hepatosplenomegaly and no other positive findings on examination were found. CBC was as follows: Hb 11.3g/dL, WBC 9,900/cumm. Platelet 25,3000/cumm. and ESR (Westergren method) was 80mm in the first hour. Ultrasound of the right hip joint was positive for effusion and a Tc99 bone scan revealed evidence for an inflammatory process in the right hip.

Joint aspiration was unsuccessful. A diagnosis of septic arthritis was made and she was scheduled for open drainage of the right hip. Meanwhile the results of a Wright agglutination test for brucella antigen, which had been sent as part of a routine work-up for a painful hip at the time of her first discharge from the hospital, showed a titer of 1/640. Surgery was cancelled, treatment was started with doxycycline and gentamicin and blood was sent for serology testing employing 2-Mercaptoethanol (2ME) to inactivate IgM antibodies, which showed a positive titer of 1/40, indicating acute infection. On close questioning she gave a history of consuming non-pasteurized fresh cheese on and off. All her symptoms disappeared on the medical treatment, her ESR fell to 50mm and then to 14mm. She was sent home and advised to continue treatment for 8 weeks. She remains well with no clinical manifestations.

Discussion

Brucellosis is a relatively common infectious disease in the Middle East with a broad spectrum of clinical manifestations ranging from subclinical infection and

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child non-specific symptoms to chronic illness. Children with brucellosis usually present with fever, myalgia, arthralgia and other rheumatologic symptoms. Splenomegaly and lymphadenopathy are frequently found on clinical examination. 

A study in Greece showed that all children affected were from shepherd families dealing mostly with sheep or goats, and their symptoms ranged from malaise to brain abscess. A review of the literature reveals a long list of unusual presentations such as pulmonary and neurobrucellosis, acute polyarthritis, glomerulonephritis, and intestinal and cardiac involvement. A 9-year-old girl with Guillain-Barre syndrome presenting as paroxysms of hypertension, and another child with multiple splenic abscesses have been described.

In this case, the child presented with classical manifestations of acute thrombocytopenic purpura, but no evidence of splenomegaly or lymphadenopathy. Thrombocytopenia, along with anemia and even pancytopenia, has been described as part of the clinical spectrum of brucellosis. In a study of 276 patients, 5.8% were found to have pancytopenia with the bone marrow showing hypercellularity in most cases and non-caseating granulomas in some. In another study of 110 children with brucellosis, thrombocytopenia was seen in 5%. Yet another report described low platelet counts in as many as 28% of patients. However, in all of these reports thrombocytopenia was noticed as part of a clinical spectrum of a multisystemic disease with various other manifestations. Hypersplenism, hemophagocytosis and granulomatous lesions of the bone have all been implicated as causing the low platelet counts.

In this case report, the patient presented with typical clinical manifestations of ITP, all her symptoms and signs including the painful hip, resolved with steroid therapy and the thrombocytopenia did not recur when she was readmitted. Although a low platelet count is frequently revealed in the blood picture of children presenting with clinical symptoms of brucellosis but thrombocytopenia as the initial manifestation of brucellosis is rare and only two patients have been reported in the literature, who presented with acute thrombocytopenic purpura.

A high index of suspicion in endemic areas is necessary for early diagnosis of brucellosis with unusual clinical manifestations.

References