

CASE REPORT / OLGU SUNUMU

Atypical Papular Purpuric Eruption Induced by Parvovirus B19 Infection

Parvovirus B 19 Enfeksiyonunun Tetiklediği Atipik Papulopurpurik Erüpsiyon

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ABSTRACT

Parvovirus B19 infection's most common dermatological manifestation is erythema infectiosum as also known the fifth disease. Rare clinical presentations of parvovirus B 19 like papulopurpuric gloves and socks syndrome and acropetechial syndrome has also been described recently. This study presents report of a case with atypical feature and distribution of rash due to parvovirus B19 infection. We want to emphasize that pediatricians should consider parvovirus B19 infection of any patient who has leukopenia presenting with petechial/purpuric eruption of an unclear origin.

Key words: Parvovirus B 19, papulopurpuric eruption, childhood

INTRODUCTION

Parvovirus infection also called fifth disease classically causes erythema infectiosum which is often described with the term 'slapped cheek' [1]. Other unusual skin eruptions like papulopurpuric gloves and socks syndrome (PPGS) and acropetechial syndrome consisting of a papulopurpuric gloves and socks syndrome with additional involvement of perioral and chin area have been noted in association with parvovirus infection recently [2-6]. Parvovirus B 19 infection also may result in nonspecific findings such as reticular erythema, maculopapular eruptions and purpuric or petechial eruptions [5]. We report a 12 year old boy with serologic evidence of an acute parvovirus B 19 infection who developed papulopurpuric eruption and petechial rashes on his trunk and extremities. To our knowledge, this case also represents the first patient in Turkey, in pediatric age group with parvovirus induced petechia.

ÖZET

Parvovirus B 19 enfeksiyonunun en sık dermatolojik bulgusu beşinci hastalık olarak da bilinen eritema infeksiyozumdur. Son zamanlarda papulopurpurik eldiven çorap sendromu ve akropetechial sendrom gibi parvovirus B 19'un neden olduğu nadir klinik durumlar da tarif edilmiştir. Bu çalışma, parvovirus B 19 enfeksiyonuna bağlı döküntüsü atipik özellik ve dağılım gösteren bir olguya sunmaktadır. Lökopeni ile birlikte nedeni bilinmeyen petechial / purpurik döküntüsü bulunan bir hastada pediatristlerin parvovirus B 19 enfeksiyonunu akla getirmesi gerektiğini vurgulamak istedik.

Anahtar kelimeler: Parvovirus B 19, papulopurpurik erüpsiyon, çocukluk çağrı

CASE REPORT

A 12-year-old boy was admitted in our emergency service with the complaint of fever and rash on his trunk and extremities. The rash appeared on his inguinal region and spreaded to his gluteal region, hand and foot wrists in about four days. It was itching but not painful and was becoming purple in 24 hours. Fever started at the same time of the rash and lasted in 3 days. The patient was well before this illness with no preceding upper respiratory tract infection, no abdominal pain or diarrhea, and no joint pain or swelling. There was no history of food and drug allergy, insect sting, blood transfusion, or foreign travel. None of his family members had the same symptoms.

On examination, the patient was afebrile and appeared well, with a temperature of 36° C, blood pressure 120/70mm Hg, and pulse rate of 96/min.

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He had no lymphadenopathy, neck rigidity, or arthritis. Skin examination revealed petechia and purpuric rashes and purple - not discoloring with printing on- rashes with sharp limits on posterior of his left upper leg, lateral of the right leg, right foot, inguinal regions, gluteal and posterior neck (Figure 1). Laboratory results showed leukopenia with a white blood cell count of $2100/\text{mm}^3$ which increased to $3300/\text{mm}^3$ and $6700/\text{mm}^3$ in the next few days. Hemoglobin was 12.2 g/dl and platelet count was $154.000/\text{mm}^3$. Renal and hepatic functions, as well as electrolytes, were all within normal range. The skin biopsy specimen showed perivascular lymphocytic infiltration of the upper dermis, rare eosinophils and neutrophils but there were no evidence of leukocytoclastic vasculitis (Figure 2). Based on his history, clinical appearance and cytopenia, a diagnosis of parvovirus infection was considered. Parvovirus B19 was detected in the serum by polymerase chain reaction. He also tested positive for IgM antibody to parvovirus B 19 indicative of acute infection. On the seventh day of his admission the petechiae started to resolve without any treatment and he was discharged. On follow up, the rashes and petechiae completely disappeared with hyperpigmentation after two weeks. Around those days, platelet and white blood count cell count returned to normal range. However, he developed the skin rash again which was discoloring with printing, appeared on his cheeks and trunk different from the firsts approximately three weeks after the initial presentation.



Figure 1. Petechial rash of the lower extremities due to Parvovirus B 19 infection

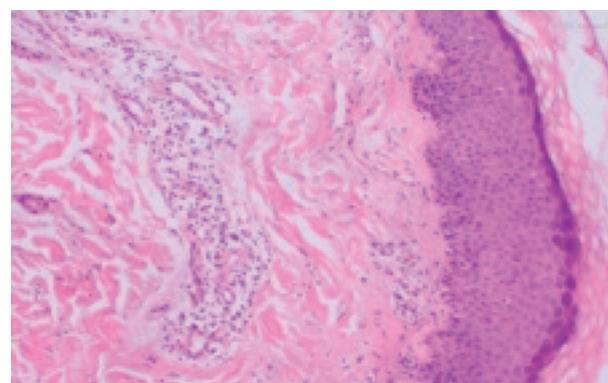


Figure 2. H&E, x200, Appearance of dermis with perivascular lymphocyte infiltration

DISCUSSION

Parvovirus B19 infection can be associated with a wide spectrum of human illnesses that range from an asymptomatic condition to life-threatening disease, but the full spectrum of this virus-induced disease is not totally defined. There have been an increasing number of reports of petechial/purpuric lesions and extracutaneous manifestations and systemic diseases linked to parvovirus B 19 infection [2-5].

The prototypical cutaneous manifestations of parvovirus B 19 infection include a petechial eruption in a glove and stocking distribution, reticular truncal erythema and the 'slapped cheek' sign [1,5].

PPGS is a distinctive rash consists of symmetric erythema and edema on hands and feet, with gradual progression to petechiae and purpura. One of the clinical hallmarks of the rash is the sharp demarcation on the wrists and ankles, leading to the name 'gloves and socks' syndrome. Mucosal involvement is a common finding. Oral erosions, petechiae, and edema may involve lips, buccal mucosa and palate. Typically, the face is not involved [2]. However, another clinical entity named acropetechial syndrome has been described recently. In this case, the typical PPGS syndrome with perioral involvement and chin [6].

Our patient had generalized petechial and purpuric eruption sparing the face. We believe that our case does not fit into either PPGS or acropetechial syndrome, because neither palms and soles nor the perioral region were affected.

The clinical manifestations of parvovirus B-19 infection apart from rash include lymphadenopathy and fever. Fever was present in our patient's history. But lymphadenopathy had not been revealed on his physical examination. Laboratory findings include leukopenia, anemia and elevated liver enzyme levels. The erythrocyte sedimentation rate and C-reactive protein level are infrequently increased [3]. We observed a prominent leukopenia in our patient.

Several viral agents including cytomegalovirus, Epstein-Barr virus can cause similar clinical features to parvovirus B 19 infection [7]. In our case, the diagnosis was confirmed by presence of parvovirus B19 IgM antibody in serum and parvovirus B19 was detected in the serum by polymerase chain reaction. Skin biopsy also led us to the diagnosis by showing perivascular inflammation and excluding other leukocytoclastic vasculitic diseases.

We think that our case is worthy of particular attention because of the rarity of the unusual form of the disease in the pediatric age group and because it is the first documented case of atypical rash of parvovirus infection at childhood in Turkey.

In conclusion, testing for parvovirus B19 infection should be considered in initial workup of any patient who has leukopenia and thrombocytopenia

presenting with petechial/purpuric eruption of an unclear origin.

Declaration of Conflicting Interests: The authors declare that they have no conflict of interest.

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