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OLGU SUNUMU/CASE REPORT

Immune Thrombocytopenic Purpura Secondary to Varicella Zoster Infection: A Case Report

Varisella Zoster Enfeksiyonuna Bağlı İmmün Trombositopenik Purpura: Olgu Sunumu

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ÖZET

Varicella Zoster Virüs (VZV) enfeksiyonu genellikle bening olmasına rağmen ciddi komplikasyonlara neden olabilen enfeksiyoz bir hastalıktır. İmmün Trombositopenik Purpura (ITP) genellikle çocuklarda kendi kendini sınırlayan bir hastalıktır. ITP, antikor kaplı veya immün kompleksle kaplanmış trombositlerin retiküloendotelyal sistem tarafından prematür olarak yok edildiği ve periferik trombositopeni ile sonuçlanan otoimmün bir bozukluktur. Primer ITP'de trombositopeni ile ilişkili iken sekonder ITP'de durum diğer bozukluklarla (örn. Sistemik Lupus Eritematosuz, HIV enfeksiyonu, VZV) ilişkilidir. Bu olgu sunumunda; önceden sağlıklı olan, VZV enfeksiyonuna bağlı ITP gelişen ve İntravenöz immünoglobulin ile başarılı bir şekilde tedavi edilen 7 yaşında bir olgu anlatılacaktır.

Anahtar kelimeler: Varisella, İmmün Trombositopenik Purpura, intravenöz immünoglobulin

ABSTRACT

Varicella zoster infection is usually considered to be benign despite of serious complications. Immune Thrombocytopenic Purpura (ITP) is usually a self-limiting disorder in children. ITP is an autoimmune disorder in which antibody-coated or immune complex–coated platelets are destroyed prematurely by the reticuloendothelial system, resulting in peripheral thrombocytopenia. In primary ITP the thrombocytopenia is isolated, whereas in secondary ITP the condition is associated with other disorders (e.g. Systemic Lupus Erythematous, HIV, VZV). We describe a case of immune Thrombocytopenic Purpura secondary to varicella infection in a previously healthy 7-y-old boy. He was treated successfully with intravenous immunoglobulin (IVIG).

Keywords: Varicella, Immune Thrombocytopenic Purpura, intravenous immunoglobulin

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INTRODUCTION

Varicella zoster virus (VZV) infection is a highly contagious and widespread infectious disease (1). Although it is generally benign and self-limiting, it can also lead to severe complications such as subclinical hepatitis, cerebellar ataxia, bacterial superinfection of lesions, pneumonia, pyogenic arthritis, osteomyelitis, encephalitis, pancreatitis and orchitis (2). Hematological complications include benign hemorrhagic varicella, immune thrombocytopenic purpura (ITP), thrombotic purpura, purpura fulminans and hemolytic anemia (3). This disease can occasionally be fatal (4). Hematological complications can appear in the first 1-2 weeks following chickenpox infection, or later (5). Furthermore, primary VZV infection in adults is associated with increased morbidity and mortality (4). However, varicella and its complications may be prevented using a live attenuated varicella

Vaccine (6).

Immune thrombocytopenic purpura is an acquired autoimmune disease, mediated by antibodies against platelet surface antigens (7). It may follow a viral infection or immunization and is caused by an inappropriate response of the immune system. Many viruses, such as human immune deficiency virus, cytomegalovirus, Epstein-Barr virus, varicella, rubeola, mumps, and parvovirus, have been implicated in childhood ITP (8). We report a case of acute immune thrombocytopenic purpura after varicella infection.

CASE

A 7-year-old male patient was brought in due to eruptions on the body on the 10th day of VZV infection. We learned that he had presented to the emergency department with nosebleed 12 days previously. The patient had no active bleeding at physical examination, but petechial lesions were observed on the hard palate and in the oral cavity, petechiae in both sclera, 2 cm diameter ecchymosis in the right temporal region (**Figure 1**), approximately 3-cm diameter ecchymosis on the right shoulder (**Figure 2**), and sporadic ecchymotic areas on both legs (**Figure 3**). No hepatosplenomegaly was observed. Laboratory findings were Wbc: 11000/µL, Hb: 13.1 g/dl, MCV: 79 fL, Plt: 32,000/µL, CRP: 0.01 mg/dl, PT: 16.4 sec, aPTT: 42.7 sec, INR: 1.3, fecal occult blood positivity, Urinalysis: Hb 2+, erythrocyte microscopy: 207 HPF and leukocyte microscopy: 5 HPF.

Sixty percent (60%) granulocytes; 6% eosinophils and 34% lymphocytes; single, non-clustered platelets and occasional giant platelets were observed at peripheral blood smear. Although blood in urine and stool suggested atypical hemolytic uremic syndrome (HUS), infection-induced ITP was suspected on the basis of the absence of acute renal failure, central nervous system involvement and fever, the absence of acute gastrointestinal disease, the presence of hemorrhage from more than one site and the peripheral smear and laboratory findings.

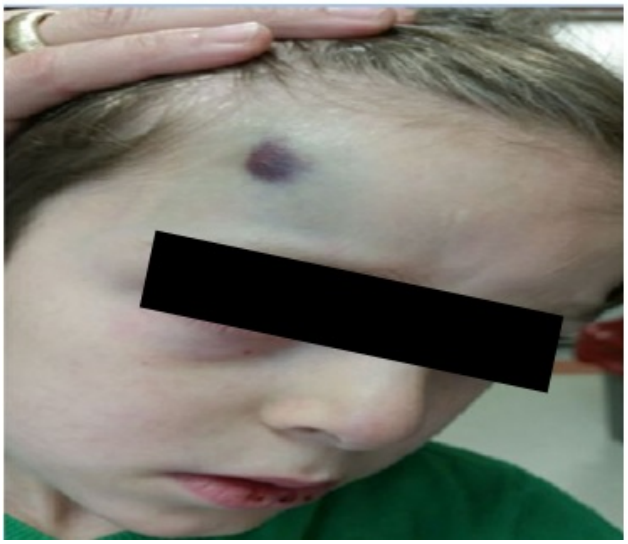

Figure 1. Ecchymosis in the temporal region of the patient

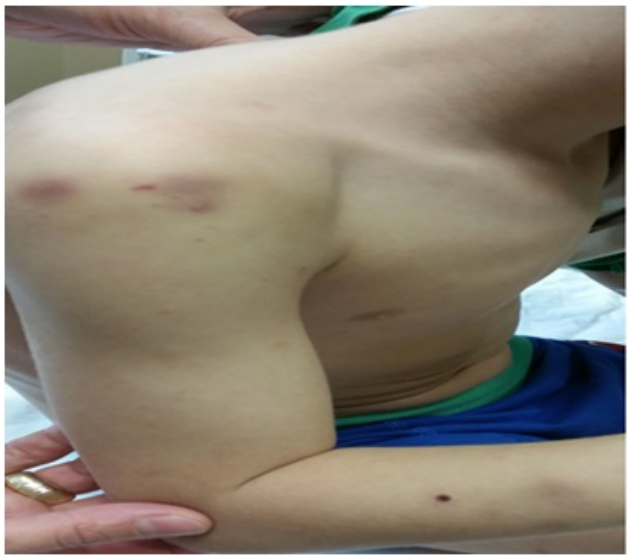

Figure 2. Figure 2. Ecchymosis on the right shoulder of the patient

Intravenous immunoglobulin (IVIG) therapy was administered. Following, IVIG the patient's platelet number rose to 56,000/µl, to 119,000/µl after 24 h and to 394,000/µl after 1 week.

DISCUSSION

Varicella zoster virus infection is a benign disease usually. But it may lead to significant complications and hospitalization, especially at older ages, pregnant women, neonates and immuno-compromised persons (5,9,10,11).

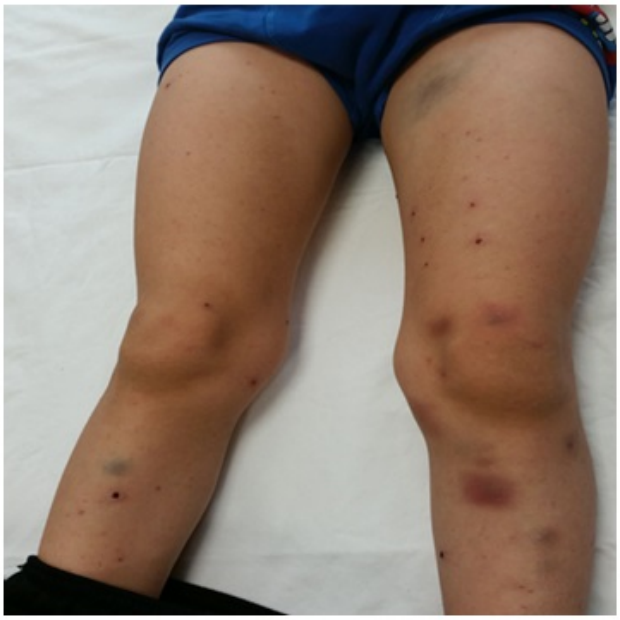

Figure 3. Ecchymotic areas on both legs of the patient

Our case was a previously healthy child, with weight and height percentiles within the normal range for his age. He was treated successfully with intravenous immunoglobulin (IVIG). In an

epidemiological study in Turkey by Koturoglu et al., an overall complication rate of 6.3 per 100,000 cases within 30 days after the onset of primary varicella was found (11).

The most probable cause of thrombocytopenia developing during VZV infections is antibodies developing against the virus antigen reacting with platelet surface antigens (12). Treatment of ITP developing after VZV in children is controversial, due to the high probability of spontaneous resolution. Patients with a high risk of hemorrhage must be treated. Steroids, IVIG and anti–D immunoglobulin are used in treatment (13). In conclusion, severe complications such as thrombocytopenia can be seen during the course of or after chickenpox.

In addition, there is likely to be a decrease in infection-based complications due to routine chickenpox vaccination programs. Routine varicella vaccination is recommended between 12 and 18 months for all healthy children and for all susceptible children before their 13th birthday (14).

Patients with infection and their families must therefore be informed of the probable complications and symptoms. The importance of vaccination should be explained to the community.

REFERANSLAR

1. Piqueras Arenas AI, Otero Reigada MC, Perez-Tamarit D et al. Hospitalizations for varicella in the Hospital Infantil La Fe, Valencia, Spain, 2001-2004. An Pediatr (Barc) 2005;63:120-124.
2. Koturoglu G, Kurugol Z, Cetin N. Complications of varicella in healthy children in Izmir, Turkey. Pediatr Int 2005;47: 296-99.
3. Demiroren K, Demiroren S, Aydın M. Immune Thrombocytopenic Purpura Following Varicella: A Case Report. Fırat University Health Sciences Medical Journal. 2007;21:137-40
4. Miller E, Marshall R, Vurdien J. Epidemiology, outcome and control of varicella-zoster infection. Rev Med Microbiol. 1993;4:222–30.
5. Rand ML, Wright JF. Virus-associated idiopathic thrombocytopenic purpura. Transfusion Science. 1998;19:253-59.
6. White CJ. Varicella-virus virus vaccine. Clinical Infectious Diseases 1997;24:753–63
7. Smíšková D, Blechová Z, Polanecká L, Zítová J, Podojilová M, Smíšek P. Immune thrombocytopenia as a complication of acute infectious diseases - case reports. Klin Mikrobiol Infekc Lek. 2013;19:15-8.
8. Yenicesu I, Yetgin S, Ozyurek E, Aslan D. Virus-associated immune thrombocytopenic purpura in childhood. Pediatr Hematol Oncol. 2002;19:433-37.
9. Enders G, Miller E, Cradock-Watson J, Bolley I, Ridehalgh M. Consequences of varicella and herpes zoster in pregnancy: prospective study of 1739 cases. Lancet 1994;343:1548–51.
10. Jaeggi A, Zurbruegg RP, Aebi C. Complications of varicella in a defined central European population. Archives of Disease in Childhood 1998;79:472–77.
11. Koturoglu G , Kurugol Z, Turkoglu E . Seroepidemiology of varicella-zoster virus

and reliability of varicella history in Turkish children, adolescents and adults. Paediatr Perinat Epidemiol. 2011;25:388–93.

12. İncecik F, Onlen Y, Leblebisatan G. Immune Thrombocytopenic Purpura after Varicella Infection: Case Report. Dicle Medical Journal. 2008;3:138-40.

13. Yalçın AS, Coşkun E, Uyanık H, Bay A. Immune thrombocytopenic purpura following Varicella zoster infection. Journal of Clinical and Experimental Investigations. 2011;2:85-7.

14. Rentier B, Gershon AA. Members of European Working Group on Varicella (EuroVar). Consensus: varicella vaccination of healthy children. The Pediatric Infectious Disease Journal 2004;23:379–89.Tardif G, Ashworth N. Local corticosteroid injection for carpal tunnel syndrome. Cochrane Database Syst Rev. 2007 Apr 18;(2):CD001554.