

Herpes zoster in a 7-month-old healthy infant

7 aylık sağlıklı bir bebekte herpes zoster

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Öz

Varisela-zoster virüsü iki ayrı klinik duruma sebep olur: varisella ve herpes zoster. Her iki durum da immünokompetan ve genç bireylerde benign olarak seyreden kliniğe sahiptir. Fakat immün yetmezliği olanlar ile yaşlılar şiddetli enfeksiyonlar ve komplikasyonlar açısından büyük risk taşır. Herpes zoster genellikle erişkinlerde görülmekle birlikte immünsupresif hastalığı olan hastalarda daha erken yaşlarda görülebilir. Bizim olgumuzda herpes zoster tanısı koyulan, immünsupresif hastalığı olmayan 7 aylık diğer yönlerden sağlıklı hasta sunulmaktadır.

Anahtar kelimeler: Varisella-zoster virüs, sağlıklı infant, herpes zoster

Abstract

Varicella-zoster virus (VZV) causes two distinct clinical entities: varicella and herpes zoster (HZ). Both entities have a benign clinical course in immunocompetent and young individuals. But immunocompromised and elderly are at greater risk for severe infection and complications. Generally herpes zoster is seen in the adult age; additionally it is seen in an earlier age in the patients with immunosuppressive disease. In our case report we present a 7-months aged, healthy patient without any immunosuppressive disease who was diagnosed as herpes zoster.

Keywords: Varicella-zoster virus, healthy infant, herpes zoster

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Introduction

The varicella-zoster virus (VZV) causes both varicella and herpes zoster (HZ). Following varicella, which is the primary infection, the virus settles in the ganglion cells, where the sensory nerves are located, and HZ develops as a result of reactivation of the residual latent virus. The most frequent risk factor in HZ is the decrease in immunity against VZV with the advanced age. Its incidence increases with age, and most of the cases are seen at the ages of 55 years or over (1,2). Herpes zoster is rare in immunocompetent infants. Infantile HZ has 2 known risk factors: 1) Intrauterine exposure to the VZV infection and 2) Exposure to VZV in the early months of life (3,4). This case was presented to stress that the herpes zoster infection diagnosed with HZ depending on the clinical diagnoses could be seen in a healthy infant, although rarely.

Case Report

A 7-month-old male infant presented to the polyclinic with the detection of itchy vesicles on the leg. From the history of the patient, it was learned that the eruptions had begun in the form of erythema on the anterior proximal thigh 2 days earlier, turned into grouped vesicles in time, and progressed towards the distal part. It was also learned that the patient with no history of fever or asthenia had been delivered by normal vaginal delivery at the hospital, that his birth weight had been 3 kg, that he had been breastfed, and that supplements had been used for a month.

His family history did not contain any feature. It was found out that his 8-year-old school-age sister had varicella 5 months earlier. No fever, lymphadenopathy or hepatosplenomegaly was detected during the physical examination of the patient. Grouped vesicles on the erythematous base starting from the anterolateral proximal right thigh and extending towards the knee were observed in his dermatological examination (Figure 1). Partial crusting was detected on the lesions at the moment of evaluation (Figure 2).

Complete blood count, erythrocyte sedimentation rate and liver function tests were included in the laboratory examinations, and his chest radiograph was evaluated radiologically.

The patient was diagnosed with herpes zoster depending on the typical dermatological findings. In addition to the

acyclovir suspension therapy, compression with Burow's solution was started three times a day for 10 minutes, along with symptomatically topical calamine lotion three times a day. In the evaluation of the patient 7 days later, complete recovery of the lesions was seen and no complication developed.



Figure 1: Grouped vesicles on the erythematous base starting from the anterolateral proximal right thigh and extending towards the knee as well as partial crusting.



Figure 2: A closer image of the lesions.

Discussion

The varicella-zoster virus (VZV) belongs to the herpes virus family and causes both varicella and herpes zoster (HZ). HZ occurs as a result of reactivation of the residual latent virus in the posterior root ganglion following varicella-the primary infection of VZV (1). Although the triggering factors in HZ are unknown in most cases, immunodeficiency (malignancy, particularly lymphoproliferative disorders, and chemotherapy-induced immunosuppression), radiotherapy and HIV/AIDS cause reactivation (2). No underlying cause could be found in our case.

Most cases with HZ are aged 55 years and over, and its incidence increases with age (2). The incidence of herpes zoster is 0.45/1,000 people per year in children aged between zero and 14 years, whereas it is 4.2-4.5/1,000 people per year among the people aged 75

years and over (3). When the pediatric population was evaluated and compared with adolescents (63/100,000 people per year) in the study on the incidence of HZ by Donahue JG et al., the lowest incidence was found in the age group of 0-5 years (20/100,000 people per year) (5).

Herpes zoster is rare in immunocompetent infants. Infantile HZ has 2 known risk factors: 1) Intrauterine exposure to the VZV infection and 2) Exposure to VZV in the early months of life (3,4). Herpes zoster might develop in the early periods of life among the infants exposed to the intrauterine varicella infection, even if they have not had varicella before (6). No intrauterine exposure to VZV was detected in our case. HZ developed as a result of extrauterine exposure to VZV. The healthy and immunocompetent case of Sawant et al. that developed HZ at the age of 2 had a history of contacting the elder sibling, who had varicella, at 1 month of age and few vesicular eruptions accompanied by mild fever 2 weeks after this exposure (7).

In the study on 21 children with HZ – 13 immunosuppressive (hematologic malignancy was present in most of them) and 8 healthy children – by Kakourou T. et al., thoracic (50%) and cervical (38.5%) dermatomal involvement was seen more frequently in both immunosuppressive and healthy groups (8). Lumbar involvement was present in our case.

In the same study on 21 children with HZ-13 immunosuppressive (hematologic malignancy was present in most of them) and 8 healthy children-by Kakourou T. et al., the mean age of the onset of HZ was detected to be 6.5 ± 4.0 years in the healthy group. 2 of 8 healthy children were exposed to the intrauterine varicella infection, and HZ developed when one of them was 2 months old and the other one was 6 months old (8).

The study with a total of 92 children with HZ-47 boys and 45 girls-by Takayama et al. shows that the varicella infection within the first year of life is a risk factor for HZ in a child with no immunosuppression (9).

Since the clinic of HZ lesions is typical, they are easy to diagnose and the dermatomal involvement of the lesions is pathognomonic (10). In our case, erythematous grouped vesicles and partial crusts were present in the region corresponding to the lumbar dermatome.

In mild HZ, resting and analgesics are enough for treatment in adolescents. Antiseptic applications might

be helpful, and secondary bacterial infections might entail antibiotic treatment. Antiviral treatment is indicated in HZ in varicella and severe varicella in adults or at any age in the case of immunodeficiency. The treatment should commence as early as possible (1). In addition to the acyclovir suspension therapy, compression with Burow's solution was started three times a day for 10 minutes in our case, along with symptomatically topical calamine lotion three times a day. In the evaluation of the patient 7 days later, complete recovery of the lesions was seen and no complication developed.

In conclusion, HZ is a disease which is rarely seen in healthy children, although it is prevalent in immunosuppressive children. On the other hand, the prevalence of HZ in healthy infants is a much less encountered situation. Particularly in cases with HZ in this period, the cause depends on the intrauterine varicella infection and the cases depending on extrauterine exposure are less frequent. Without the presence of any underlying state of immunodeficiency in our case, HZ developed during infancy after exposure to the extrauterine varicella infection. When the HZ infection is encountered during infancy, the states of immunodeficiency should absolutely be investigated; however, it should be kept in mind that it might be seen in healthy individuals.

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