

# Herpes Zoster Ophthalmicus in An Otherwise-Healthy, 16-Months Old Child: Case Report

## 16 Aylık Bir Çocukta Herpes Zoster Oftalmikus Olgusu

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**ABSTRACT** Herpes zoster ophthalmicus is rarely seen in children. The incidence of herpes zoster in children is only 1.1 per 1000 person years and especially ophthalmic herpes zoster is even lower. We present a case of herpes zoster ophthalmicus in a 16-month-old male child who had not vaccinated for chickenpox. His cousin had chickenpox 6 months ago but our patient did not develop any rash or fever at that time. There was no history of chickenpox or any other maternal illness during pregnancy. We report this case to document the possibility of herpes zoster ophthalmicus as a rare condition in healthy children with a history of an unrecognized subclinical varicella infection.

**Key Words:** Herpes zoster ophthalmicus; skin diseases, viral; pediatrics

**ÖZET** Herpes zoster oftalmikus çocuklarda nadiren görülür. Çocuklarda zoster insidansı yılda sadece 1.000'de 1.1 olup, oftalmik herpes zoster daha da nadirdir. Bu makalede, daha önce suçiçeği için aşılanmamış 16 aylık bir çocukta görülen herpes zoster oftalmikus olgusu sunulmuştur. Kuzeni 6 ay önce suçiçeği geçiren hastamızın o dönemde herhangi bir döküntü veya ateş şikâyeti olmamıştır. Annesinin de gebelik sırasında suçiçeği veya herhangi bir başka hastalık öyküsü yoktu. Biz bu makalede, tanımlanamayan subklinik suçiçeği enfeksiyonu öyküsü olan sağlıklı çocuklarda nadir olarak görülen bir herpes zoster oftalmikus olgusunun sunumunu yaptık.

**Anahtar Kelimeler:** Herpes zoster oftalmikus; deri hastalıkları, viral; pediatri

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**H**erpes zoster is a disease associated with aging that can significantly impair quality of life for affected individuals. Anyone infected with varicella (chickenpox) in childhood is at risk for reactivation of dormant virus and the onset of zoster disease, although it occurs with increasing frequency in the elderly as a result of worsening of cell mediated immunity.<sup>1</sup> Herpes zoster ophthalmicus with ocular involvement is a relatively common occurrence in adults, although rarely found in children.<sup>2</sup> The incidence is lower in the group 0 to 5 years of age (about 20/100.000 person-years) when compared with adolescents (about 60/100.000 person-years).<sup>3</sup> We report this case as a rare condition in healthy children with a history of an unrecognized subclinical varicella infection.

## CASE REPORT

A previously healthy 16-month-old boy presented with acute onset of rash involving the right side of forehead. He had a history of obtuse trauma to his head and right eye one week ago. The child had been a full term caesarean delivery with a birth weight of 3250 g and he has still been breast fed and fully immunized to date except varicella vaccine. (Varicella vaccination is not included in routine vaccination programme applied by Health Ministry in Turkey) There was no history of chickenpox or any other maternal illness during pregnancy. In detailed history, we learned that the mother had chickenpox when she was a child. When the patient was 10 month old, his cousin had chickenpox but our patient did not develop any rash or fever at that time.

On physical examination the child was irritable but afebrile. There were grouped vesicles on an erythematous base covered his right side of forehead and upper eyelid corresponding to the distribution of the ophthalmic division of the trigeminal nerve, leading to the diagnosis of herpes zoster ophthalmicus (Figure 1A). On ophthalmologic examination, there was diffuse oedema and vesicles on upper eyelid, conjunctival hyperaemia was also noted, but the cornea was clear and had not been



**FIGURE 1A:** Grouped vesicles on an erythematous base covered the right side of his forehead and upper eyelid.



**FIGURE 1B:** After the treatment, the rash resolved, leaving residual hypo-pigmented macules.

stained. He was a healthy and active child with no history, signs or symptoms of any immunological problems. The remainder of the examination, complete blood cell count, immunoglobulin levels and other biochemical tests were normal. Varicella immunoglobulin G level was 41.8 AU/mL (11> positive), immunoglobulin M level was 22.7 AU/mL (11> positive). Immunoglobulin G for HIV and immunoglobulin G and M for Herpes simplex virus 1 and 2 were negative.

Because of poor fluid intake, we have hospitalized the child and treated with intravenous acyclovir 200 mg four times daily and acyclovir 5% eye ointment five times daily for seven days. His general condition and lesions improved rapidly. After 1 week intravenous treatment, the patient discharged from the hospital and his treatment was switched to one week course of 200 mg of oral acyclovir suspension four times daily. Two weeks later, the rash had resolved, leaving residual hypo pigmented macules (Figure 1B). There was no evi-

dence of any ocular involvement during the course of treatment.

## DISCUSSION

Herpes zoster is a disease that predominantly affects the elderly. Childhood zoster is rare but not unheard of, with cases reported in children as young as 4 months. The incidence of zoster in children younger than 14 years is only 1.1 per 1000 person years and especially ophthalmic herpes zoster is rarely found in children having an incidence of 42/100.000 person years.<sup>2,4</sup>

Infantile herpes zoster is more commonly associated with intrauterine varicella zoster virus (VZV) infection than postnatal infection with VZV, however, it can occur to an unrecognized subclinical varicella in infants born to varicella zoster immune mothers.<sup>5,6</sup> Herpes zoster has also been described in newborns whose mother had been exposed to VZV infection during pregnancy.<sup>7</sup> If chickenpox occurs in the mother in the third trimester of pregnancy, herpes zoster is likely to occur in the first year of the infant's life. If it is acquired before 1 year then herpes zoster likely to occur before 10 years of age.<sup>8</sup> Our case had not a history of maternal chickenpox or any other maternal illness during pregnancy and he was not vaccinated against varicella. Besides, since the mother has the history of chickenpox during her childhood, we have excluded maternal asymptomatic varicella infection during pregnancy. We presume subclinical primary infection occurred in our patient at age 10 month when his cousin was affected.

Prior varicella is prerequisite for herpes zoster but other factors that increase the risk are; elder age, immunocompromised state, immunosuppressive drugs, malignancy, psychological stress and trauma.<sup>9</sup> Our case only had a history of trauma to his head and we had not found any underlying immune problem.

The diagnosis can usually be made on clinical grounds; distinguishing it from zosteriform herpes virus infection may be however difficult. Atypical lesions, furthermore, may require laboratory confirmation, which sometimes is obtained from viral culture or more readily from direct immunofluorescence assay. Recently, nested and real time polymerase chain reaction testing of samples from skin lesions have proved valuable for identifying VZV, with more rapid amplification than other methods and high sensitivity. These laboratory techniques are most valuable for differentiating VZV from zosteriform herpes simplex, a herpes simplex infection that mimics zoster disease.<sup>10,11</sup> In our case Varicella immunoglobulin G and M were positive, immunoglobulin G and M for Herpes simplex virus type 1 and 2 were negative.

A study from Germany about children with childhood herpes zoster, Grote et al suggest that pre-emptive therapy is a common reason for hospitalization of immunocompromised children; complications are the main reason for hospital admission of immunocompetent children. The same study has shown that,  $\geq 1/250$  healthy children with herpes zoster will acquire a complication requiring hospitalization, with bacterial superinfection, meningoencephalitis, herpes ophthalmicus and zoster oticus accounting for the majority of these hospitalized patients.<sup>12</sup>

Herpes zoster can occur at any age regardless of immune status of the individual. Childhood zoster is not always a harbinger of an underlying immunodeficiency, malignancy or HIV infection and usually occurs as a result of reactivation of primary infection by VZV acquired in utero or less commonly acquired during early infancy.<sup>3</sup> This case demonstrates that herpes zoster ophthalmicus can occur in a healthy child with a history of an unrecognized subclinical varicella infection.

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