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*Case Report*

## Eye for an Eye... Herpes Zoster Ophthalmicus in Two Children

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### KEYWORDS

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*Herpes,  
VZV,  
Shingles,  
Zoster ophthalmicus,  
Conjunctival hyperemia,  
Ocular pain,  
Acyclovir*

### ABSTRACT

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The author reports two cases of ophthalmic herpes zoster, both associated with conjunctival hyperemia, in two children aged 11 and 5 years who had received only the first dose of varicella-zoster virus (VZV) vaccination at 15 months of age. In both cases, the clinical presentation was highly suggestive for diagnosis, and prompt therapeutic intervention successfully prevented ocular complications.

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## Introduction

Herpes zoster ophthalmicus (HZO) is generally known as a disease that affect the elderly and immunocompromised people, but it can also affect children. It's incidence in the pediatric population is low and has dramatically declined since the varicella vaccination program was being introduced. Infection before

12 months of age as well as intrauterine exposure represent significant risk factors for the development of infantile zoster. In case of clinical suspect of HZO in a child, an early diagnosis and a prompt antiviral treatment are essential for reducing ocular and systemic morbidity.

## Clinical case n. 1

An 11-year-old boy with no notable pathological history consulted the pediatrician office due to a painful eruption affecting the left periocular area for a day. His father had a recurrence of Herpes simplex type 1 and he was afraid to have been infected.

As for his personal history, he had been vaccinated according to the Italian vaccination schedule only with the first dose (against the varicella zoster virus) at the

age of 15 months and he presented the disease at the age of 5, requiring outpatient care and symptomatic treatment.

At the first medical consultation he presented few grouped vesicles on erythematous base confined to the cutaneous distribution of the Maxillary division of Trigeminal nerve, without ocular involvement (Fig. 1).



**Fig. 1.** Erythema and vesicles near the left external canthus of the eye, innervation territory of the maxillary branch of the trigeminal nerve.

He was immediately treated with oral acyclovir but after 24 hours he developed mild conjunctival hyperemia with ocular lacrimation and local pain suggesting a possible Herpes zoster ophthalmicus (HZO). So he was referred to the emergency department for a comprehen-

sive eye examination that revealed a mild ocular involvement without signs of keratitis or uveitis. Follow-up one week later showed complete resolution of the rash and of the ocular signs.

## Clinical case n. 2

After only a month, another boy aged 5 years presented with a vesicular rash of the right eye periocular region, nearby the lower eyelid. As for his personal history, he had been vaccinated according to the Italian vaccination schedule only with the first dose (against the varicella zoster virus) at the age of 15 months. 4 years ago, he developed a herpetic gingivostomatitis

and his mother had also a recurrence of Herpes simplex type 1.

Such as the first clinical case, at the first medical consultation, he presented grouped vesicles on erythematous base confined to the cutaneous distribution of the Maxillary division of Trigeminal nerve, without ocular involvement (Fig. 2).



**Fig. 2.** *Erythematous-vesicular lesions in the innervation territory of the second branch of the trigeminal nerve.*

He was immediately treated with oral acyclovir but after 72 hours he developed intense ocular pain with moderate conjunctival hyperemia and lacrimation suggesting a possible HZO (Fig. 3). So he was referred to

the emergency department for an eye examination that revealed a mild ocular involvement without signs of keratitis or uveitis. Follow-up two week later showed a complete resolution.



**Fig. 3.** *Associated conjunctival hyperemia.*

## Discussion

Herpes zoster (shingles) is caused by a reactivation of the varicella zoster virus (VZV), which, after the initial infection, becomes latent and persists in sensory dorsal root ganglia and cranial nerve ganglia. Incidence of HZO in the pediatric population is low, with rates of 4.8 per 100,000 in ages 0–10 and 7.8 per 100,000 in ages 11–20 (1). Varicella infection before 12 months of age is a significant risk factor for developing childhood zoster. Moreover, intrauterine exposure to varicella is a risk for the development of Herpes zoster (HZ) in infants and young children (2).

Even if an immunocompromised state can predispose children to the development of HZO, most of cases occurred in immunocompetent children but a lot of studies suggest that the incidence of pediatric HZ has dramatically declined since 1998, as the varicella vaccination program was being introduced and was maturing (3).

Diagnosis of HZO in children is primarily clinical, based on the characteristic unilateral vesicular rash in the distribution of the trigeminal nerve and associated local symptoms (red eye, excessive tearing, eye pain, blurred

vision, photophobia, and rarely decreased visual acuity). Therefore, laboratory testing is suggested in case of uncertain diagnosis (4).

Skin lesions caused by Herpes Zoster infection in children must be differentiated from Herpes Simplex type 1 and 2 infection, contact dermatitis, folliculitis, Impetigo, Dermatitis herpetiformis, drug eruptions, insect bites.

The most recent guidelines on the management of HZ suggest against initiating an antiviral medication in children in the absence of the risk of complications, but

HZ of the head and/or of the neck area represent a risk factor for complicated HZ so in this case the initiation of an antiviral medication is strongly recommended (5). Children with HZO generally have a completely resolution of symptoms with a good vision recovery if they are promptly treated, but rarely HZO can cause complications in the orbit and ocular adnexa so a long-term follow-up is required.

## Conclusions

HZO is generally known as a disease that affect the elderly and immunocompromised people, but it can also affect children, so in case of clinical suspect of HZO in a child, an early diagnosis and a prompt antiviral treatment are essential for reducing ocular and systemic morbidity. In case of ocular complications, an

ophthalmologic long-term follow-up is also required. More systematic studies are needed to define the incidence of HZO in children and appropriate treatment and follow-up protocols for the care of pediatric HZO.

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