

# Herpes Zoster in Children and Adolescents: Is It a Problem?

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## Abstract

**Objective:** In this paper, we aimed to evaluate the clinical features of herpes zoster.

**Material and Methods:** Patients diagnosed with herpes zoster during April–September 2015 in pediatric and pediatric infectious diseases outpatient clinics were recruited. Patients were assessed based on clinical conditions (pain, pruritus, and dermatomal region), demographics, medications, and presence of complications.

**Results:** During 6 months period 12 patients with median age of 7,9 (1, 6-13) years were admitted. The male and female percentages were equal. History of varicella infection was present in one patient. One patient was admitted as recurrent and 2 patients developed complications. The most frequent dermatomal region was Trigeminal region (6 patients) and 4 patients showed thoracal dermatomal region. Sacral and lumbar dermatomal regions were observed in each patient. Acyclovir, symptomatic treatment and antibiotic therapy during complication were used. It was observed that all patients were cured in the 1 month follow-up period.

**Conclusion:** To use symptomatic treatment when necessary and to diagnose and manage complications early are important for the clinical progress and the clinics of the patients (*J Pediatr Inf 2016; 10: 1-5*).

**Keywords:** Herpes zoster, varicella, child, adolescent

## Introduction

Herpes Zoster (HZ) that belongs to the human alpha herpes viruses, is a disease characterized with vesicular lesions surrounds the relevant dermatomes, caused by the varicella zoster virus (VZV) settled in the dorsal ganglions after varicella infection, in the patients with advanced age usually with the immunosuppressive conditions (1, 2). Even though Zoster can cause VZV infection, since it is not infected by the respiratory route and there are less viruses in dermatomal vesicles compared to varicella, it is less infectious (1, 3, 4). HZ is known mostly as an adult disease is also seen in children and emerges during periods of immune suppression (5, 6). However, the latest studies and case presentations have demonstrated that the disease is seen in health children as well (5, 7-12).

In this study, we aimed to investigate the demographic characteristics, clinical course, involved dermatomal region of the patients with herpes zoster admitted to the pediatric clinic of our hospital between April 2014 and whether a complication developed in them and when the condition would improve.

## Materials and Methods

Patients admitted to the pediatric clinic of the general pediatrics and pediatric infectious diseases outpatient clinic of the Bakırköy Dr. Sadi Konuk Training and Research hospital between April 2015 and September 2015 were prospectively included in the study. Age and gender of the patients were recorded and they were asked the clinical complaints such as whether they had

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a chronic disease, history of varicella, whether varicella vaccine was applied, presence of recurrence, rashes, fever and pain. They were followed up in terms of complications. The treatment given to the patients and how long it took the lesions to heal were recorded. The patients were informed about contamination and told that they needed to consult to the clinic if/when they had similar complaints around them.

For the assessment of pain in patients, a verbal identification scales (VDS) were used. For their pain levels, the patients were asked to identify their pains as "none-little, medium-severe" (13). Since children under 5 years of age may be unable to identify and express their feeling in terms of the severity of their pain, they were evaluated by the Face Scale (FS) (14).

Patients were asked to identify whether they had a chronic disease, presence of a history suggestive of immune deficiency, whether used a drug regularly in an attempt to eliminate immune deficiency. In the presence of an additional complaint of the patient, except the vesicular, tests aimed at identifying the complaints were planned.

Age of the patients was stated as (minimum-maximum).

## Results

Twelve patients were included in the study. Six of the patients were female and 6 male. Median age was 7.9 (1.6-13) years. As the involvement region, it was seen that 4 patients had Trigeminal V1 (ophthalmic branch; periorbital area), 2 patients Trigeminal V2, 4 patients unilateral thoracic, 1 lumbar and 1 sacral division. 13 year-old patient, the oldest one had a history of varicella; it was learnt that the other patients did not have significant history of varicella.

It was learnt that the male patient aged 10.2 with a lesion in the dermatomal region of the Trigeminal V2 branch, had rashes in the same region two years ago as well. It was learnt that due to the tuberculin skin test positivity, the patient received tuberculosis prophylaxis. There was a history of recurrence in only one patient.

It was learnt that the youngest patient who was 1.6 year-old male patient had fever for 2 days. Other patient did not have a history of fever.

It was learnt that two patients (aged 8.1 and 9.5) had mild fever. It was stated that pains were relieved by Paracetamol and they were not very severe. Mother of the 2.7 year-old child said that her child was restless. As the pain could not be expressed completely, it was thought that rashes and pain could create similar type of restlessness in a child at that age. Apart from this patient, in two

patients who had lesion in the area of Trigeminal V1 dermatome, and in the thoracic and lumbar regions, rash was identified. It was seen that the patient responded to the antihistamini treatment.

There was a lesion in the Trigeminal V1 region of an eight year old female patient and purulent conjunctivitis and periorbital cellulitis as complications were monitored. Conjunctivitis and cellulitis improved through antibiotic treatment. The other patient who developed a complication was a 12 year-old male patient. This patient who was followed up with the diagnosis of Down syndrome did not have any specificity in his laboratory tests. The patient was admitted to our hospital with herpes zoster-related lesion that started on the back in the left thoracic region spread all over the left-sided thoracic region within a week and affect-



**Figure 1.** Vesicular lesions that started in the left thoracic region in 12 year-old patient with Down syndrome



**Figure 2.** The appearance of lesions with the cellulite that started in the thoracic region within 1 week

ed the infection of the subcutaneous tissue (Figures 1, 2). The patient who had diffuse cellulite and vesicular lesions was hospitalized and was given intravenous acyclovir, ceftriaxone and clindamycin treatment. There was a decline in the lesions on the day 5<sup>th</sup> day of treatment. No complications developed in other patients.

Except the 12 year-old patient with Down syndrome who was admitted with cellulite, none of the patients had an additional disease or complaints. Physical examinations were normal except the herpetic vesicular-macular lesions.

All the patients were given local treatment with acyclovir cream and depending on the usability of the patient, oral or intravenous acyclovir treatment. For the lesions that could be mildly infected, bacitracin cream was recommended. The patients with rash complaints were given antihistaminic drugs as symptomatic treatment; and those with pain were given paracetamol.

It was seen that in the policlinic controls within the first month following the emergence of the disease, the lesions of all patients improved leaving a slight scar; and in the policlinic controls in the second month, all lesions improved completely without leaving any scars.

### Discussion

Of the 12 patients, 6 were male and the remaining 6 were female, as it is the case in terms of frequency of males and females within the relevant literature (15). In the HZ study in which 14 cases were presented in 2012 in our hospital, on the other hand, it is seen that there were more males in that study (7). Similarly, previous studies prove that there could be male or female dominance in the studies. Therefore, it was concluded that given the number of cases in previous studies, it is difficult to say that male or female dominance was seen.

Pain complaint in adults is high in zoster herpes and in support of the information in the relevant literature that pain is not common in children and it was seen in our study that the pain complaints in our study were not priority findings (6). However, given the case series done in Turkey, it was stated that although the pains in children increased with age, there were pain complaints nearly in 50% of the cases in the whole childhood period (Table 1). Even though pain ratio in our case series is rather low, it should be remembered that HZ can cause pains in children; thus, supportive treatment should not be neglected. Given the fact that pains increase especially when complications develop, close follow-up, providing information to the patient's relatives about the local care and early onset of the treatment become all the more important.

Table 1. Comparison of herpes zoster case series

Researchers	Location of Research	Date of Publication	Number of cases	Age (year)	Gender (M-F)	Pain	Fever	Rashes	Recurrence	Story of Varicella	Complication	Dermatomal Region					
												Trigeminal	Cervical	Thoracal	Lumbar	Sacral	Common
Özügöz et al. (12)	Afyon	2014	12	8	4-8	6	n	4	0	6	0	0	2	7	3	0	0
Nair et al. (8)	Anand/Indian	2013	8	9	5-3	4	1	0	0	5	0	0	1	5	0	2	0
Şen et al. (7)	İzmir	2012	16	7.3	9-7	11	1	1	0	8	4	4	1	6	3	1	1
Topkarcı et al. (6)	İstanbul	2012	14	8	4-10	5	0	6	0	13	0	0	0	9	3	1	0
Adışen et al. (11)	Ankara	2007	4	8.7	3-1	2	0	3	0	2	1	1	1	1	1	0	0

M: Male; F: Female

Herpes zoster diagnosis is made by dermatological signs and clinic findings. Although some laboratory tests are known to support the diagnosis, there is no need to perform laboratory tests in order to make the HZ diagnosis. Knowing these both avoids hurting the patient while drawing blood and prevents the extra costs.

In the relevant literature, there are cases where HZ has recurred (16). Recurrence is quite rare. Recurrence was seen in only one of our patients. Given the fact that this particular patient has received tuberculosis prophylaxis, it is possible to suggest that the reason of recurrence could be due to the immune predisposition.

When it is evidenced that the skin lesions of all patients have healed in two months the latest without any scars, despite the distinctive rashes during the active infection, knowing that prognosis is good and it does not aesthetically create any problems is important in terms of informing the families. Even though it is known that complications may develop, rate of complications is very low. Purulent conjunctivitis developed in one patient with Trigeminal region involvement and cellulite in another one with thoracal region involvement, these complaints declined with antibiotic. In a case series published by Ően et al. (5), it was found that complication rates were high, but all of these cases were cases of Trigeminal region involvement causing complications in the form of keratitis and cellulitis. Although the decline of rashes occurred on average within 2 weeks in majority of the publications, no mention was made of when the completely spotless lesions healed.

Herpes zoster lesions are known to be infectious. Even though there was no history of infection or contamination in any of our patients, in cases of the failure of wound closure, they were recommended not to go to school due to the risk of infecting their friends (4).

## Conclusion

Even though herpes zoster may develop in the presence of a history of previous varicella, there is also a possibility of the failure of the patient to describe the varicella. In herpes zoster, it is known that complaints of fever, pain and rashes increase by age. In the presence of complaints, giving the patient a symptomatic treatment may enable the patient to easily recover from the condition. In the presence of patients' follow-up and complications, especially in terms of developing complications, early onset of treatment should not be neglected.

**Informed Consent:** Written informed consent was taken from the parents of the patients.

**Peer-review:** Externally peer-reviewed.

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