

## Case Report

# Herpes zoster in a healthy child-a rarity

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### ABSTRACT

Herpes zoster, caused by *Varicella-zoster* virus is generally considered to be a disease of the elderly. Recently, a number of studies have shown in the increased incidences in children. Herein, a case of Herpes zoster in an otherwise healthy child of 9 years of age is being reported, who did not have any evidence of immunosuppression.

**Keywords:** Children, Herpes zoster, Immunocompetent

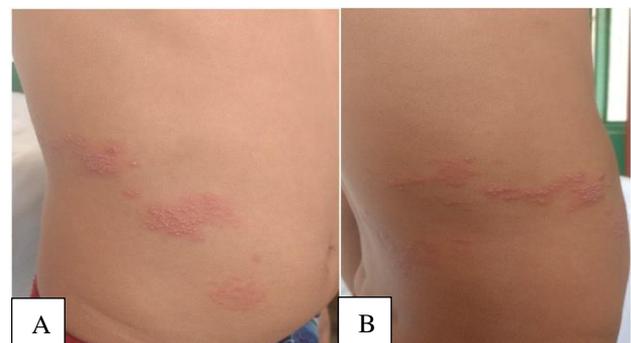
### INTRODUCTION

Herpes Zoster is a viral infection caused by the reactivation of the latent varicella zoster virus, occurring in a dermatomal pattern. It is uncommon in childhood and incidence increases with age.<sup>1</sup> The age adjusted incidence rate in children below 14 years is only 0.45 per 1000 persons while in the age group of 75 years and above it is up to 4.5 per 1000 persons.<sup>2</sup> Though a disease generally associated with old age, it is now increasingly occurring in otherwise normal children.<sup>3,4</sup> We hereby describe a case of Herpes zoster occurring in an otherwise healthy immunocompetent child.

### CASE REPORT

A previously healthy 9-year-old boy presented with a 4-day history of mild painful, erythematous papular rash over right lumbar region, both on front and back in a dermatomal fashion in T11 region. The lesions became blistered over next 2-3 days, getting confluent at places (Figure 1). The parents did not give any definite history of chicken pox in the child in the past. The child was also not given any *Varicella* vaccine and his mother denied any eruptive disease during pregnancy. The differential

diagnosis of *Herpes zoster* and *zosteriform herpes simplex* were kept. PCR (polymerase chain reaction) and Tzanck test (which revealed multinucleate giant cells) confirmed the clinical suspicion of herpes zoster.



**Figure 1: Multiple well defined erythematous papulo-vesicles getting confluent to form blisters at places in a dermatomal fashion; 1(A): over anterior surface of trunk in t11 dermatomal segment, 1(B): over lumbar area of the back supplied by t11 thoracic nerve.**

Other investigations like haemogram and peripheral smear was essentially normal. Human immunodeficiency

virus (HIV) ELISA (enzyme-linked-immunosorbent serologic assay) was negative. The child was started on acyclovir tablets, with a dosage of 40mg/kg body weight, four times a day (up to a maximum dose of 800mg four times daily), for one week. Supportive measures included topical calamine, oral antibiotics and paracetamol. The child showed complete recovery without any residual pain after one week.

## DISCUSSION

Primary *Varicella-zoster* infection occurs in the form of chickenpox, usually in the early childhood. The virus remains dormant in the dorsal root ganglia till activated, when it produces the clinical picture of herpes zoster. This reactivation generally occurs in the elderly and is associated with loss of *Varicella-zoster* virus specific cellular immunity.<sup>4</sup> Earlier childhood herpes zoster was thought to be an indicator for an underlying malignancy, especially acute lymphatic leukemia, but recent studies have not shown any increase in the incidence of malignancy in children with herpes zoster.<sup>5</sup> Approximately 3% of the pediatric zoster cases occur in children with malignancies.<sup>6</sup>

Rising incidence of herpes zoster in otherwise healthy children may be due to acquiring primary varicella infection in utero, or in infancy, wherein the immunity is not fully developed. Vaccination with live attenuated virus may also contribute. A low level of lymphocytes, natural killer (NK) cells and cytokines are seen in infants, along with virus-specific immunoglobulins, all of which may result in an inability to maintain the latency of VZV, leading to early appearance of zoster in children.<sup>7</sup> The diagnosis of herpes zoster is mainly clinical. Common differential diagnosis includes zosteriform herpes simplex, bullous impetigo and bullous insect bite reaction.

A simple bed side test of Tzanck smear may reveal multinucleated giant cells on microscopy in case of viral infection. Herpes zoster can be differentiated from zosteriform herpes simplex by PCR, direct fluorescent monoclonal antibody test, serum specific IgM by indirect fluorescent antibody method or more definitely by viral cultures. Our diagnosis was clinically supported by Tzanck smear and PCR. The course of the disease is milder in children, the mean duration being 1-3 weeks. Though, lesional pruritus and pain may be present, the incidence of post herpetic neuralgia is negligible.

Herpes zoster although thought to be a disease of the elderly is increasingly being seen in the younger age groups. Various authors have studied the epidemiology and clinical patterns of this condition in the pediatric population.<sup>3,4,8</sup> Prabhu et al reported 10 cases of herpes zoster in children under the age of 14, only three of whom had underlying immunosuppression. Only three of the ten children reported previous history of varicella infection and none was immunized against varicella.<sup>3</sup>

Malik et al reported 42 children with herpes zoster, with an age range of 18 days to 12 years. History of previous exposure to varicella was found in only 31% with majority being exposed below two years of age. Six patients gave history of chickenpox in mother during pregnancy. Majority of patients showed no evidence of immunosuppression on history, examination and investigations. Three patients were anti-HCV positive, two had tuberculosis, one patient was taking steroids and one was diagnosed as leukemia.<sup>4</sup>

The first line of therapy in childhood herpes zoster is oral acyclovir, given at a dose of 20-40mg/kg body weight, four times a day.<sup>5</sup> Patients with HIV infection are at a risk of developing severe illness from either varicella or zoster. Progressive primary varicella, a syndrome with persistent new lesion formation and visceral dissemination, may occur in HIV infected patients and may be life threatening.<sup>9</sup> Present patient responded well to the treatment and did not complain of any residual pain in the affected dermatome.

## CONCLUSION

Herpes zoster in children, though rare is increasingly being observed in children. Contrary to the earlier thought, the recent reported cases have been seen in otherwise healthy immunocompetent children. Generally, the disease is mild and of shorter duration in children than its adult variety.

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## REFERENCES

1. Sterling JC. Viral infections. In: Burns T, Breathnach S, Cox N, Griffiths C (eds). Rook's textbook of dermatology. 8<sup>th</sup> ed. Wiley-Blackwell. 2010:33.23.
2. Ragozzino MW, Melton LJ 3rd, Kurland LT, Chu CP, Perry HO. Population-based study of herpes zoster and its sequelae. *Medicine (Baltimore)*. 1982;61:310-6.
3. Prabhu S, Sripathi H, Gupta S, Prabhu M. Childhood herpes zoster: a clustering of ten cases. *Indian J Dermatol*. 2009;54(1):62-4.
4. Malik LM, Azfar NA, Khan AR, Hussain I, Khan AR, Hussain I, et al. Herpes zoster in children. *J Pak Assoc Dermatol*. 2013;23(3):2267-71.
5. Kakourou T, Theodoridou M, Mostrou G. Herpes zoster in children. *J Am Acad Dermatol*. 1998;39:207-10.
6. Takayama N, Yamada H, Kaku H, Minamitani M. Herpes zoster in immunocompetent and immunocompromised Japanese children. *Pediatr Int*. 2000;42:275-9.

7. Bhushan P, Sardana K, Mahajan S. Dermatomal vesicular eruption in an asymptomatic infant. *Dermatol Online J.* 2005;11:26.
8. Guess HA, Broughton DD, Melton L J III, Kurland LT. Epidemiology of herpes zoster in children and adolescents: a population based study. *Pediatrics.* 1985;76: 512-7.
9. Von Seidlin L, Gillette SG, Bryson MD. Frequent recurrence and persistence of varicella zoster virus infection in children infected with human immunodeficiency virus type 1. *J Pediatr.* 1996;128:52-7.

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