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Research Article

Herpes zoster in the pediatric age group: study from a tertiary care hospital

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ABSTRACT

Background: Herpes zoster (HZ) caused by Varicella zoster virus (VZV) is uncommon in childhood.
Methods: During a period of one year all the children with HZ coming to the Departments of Pediatrics and Dermatology from a tertiary hospital were enrolled in the study. Various parameters like demographic details, history of vaccination against VZV, site of involvement and associated complications were noted down.
Results: HZ in children is very rare. Only 19 cases were reported from a tertiary care institute. It is more common in older children (one case <5 yrs). Most common site is thoracic (55%) segmental involvement. Complications (26.3%) are rare in children as compared to elderly.
Conclusions: Paediatric herpes zoster although uncommon can develop in immunocompetent children and should be considered in the differential diagnosis of vesicular eruptions in children. Proper treatment reduces the course as well as complications in the children

Keywords: Herpes zoster, Children, Immunocompetent

INTRODUCTION

Herpes zoster (shingles) occurs from the reactivation of varicella-zoster virus (VZV) that has remained dormant within dorsal root ganglia, after the initial exposure to the virus in the form of varicella (chickenpox).[1] The incidence of herpes zoster in the pediatric age group is low, and the risk of acquiring this disease increases with age.[2] Herpes zoster is rare in children and young adults, except in younger patients with AIDS, lymphoma, other malignancies, and other immune deficiencies and in patients who have received bone marrow or kidney transplants.[3] In adults HZ accounts for associated morbidity in the form of post herpetic neuralgia and herpes zoster ophthalmicus, but in children it is believed to be benign unless the child is immunocomprimised.[4,5] Keeping in view the rarity of HZ in children, we here describe the cases of herpes zoster in the pediatric age group reported from a tertiary care centre during a period of one year.

METHODS

A descriptive study was conducted on all the children with the herpes zoster in the age group of 0- 18 years coming to the Departments of Paediatrics and Dermatology of a tertiary care hospital during a period of one year from April 2013 to March 2014. A total of 19 such cases were reported. For all the cases patient profile, demographic details were noted. A note was made of any

previous history of immunization against varicella or overt varicella infection. Any history of immunosuppression was thoroughly enquired and noted. On examination, site of involvement was noted down. Baseline investigations including complete blood counts, hepatitis B and C serology and retroviral serology were done in all the children. All the children were started on acyclovir tablets, with a dosage of 40 mg/kg body weight, four times a day (up to a maximum dose of 800mg four times daily), for one week. Supportive measures included topical antibiotic cream, oral antibiotics and paracetamol. Complications immediate as well as remote if any were looked for and noted down.

RESULTS

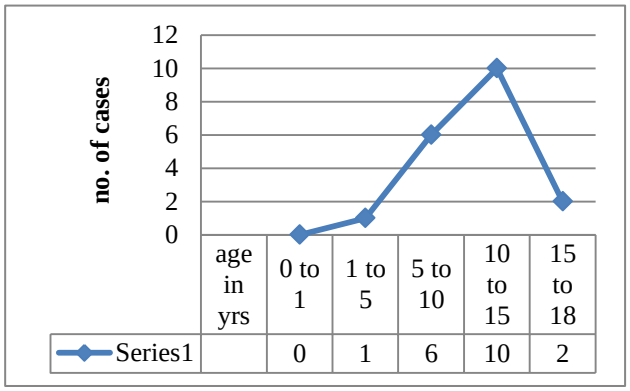

Figure 1: Age distribution of children with herpes zoster.

Median age of the patients who presented with HZ was 10 years with the age ranging from 2 years to 17 years. HZ was more commonly reported in the age group of 10-15 years (10 cases) followed by children in 5-10 years (6 cases) (Figure 1). Only one case of herpes zoster was seen in the children less than 2 years (Figure 1). Of the 19 children studied 11 (58%) were boys (Figure 2). On parental enquiry, only seven (36.8%) children had definite history of chickenpox in the past. Among these seven children five (26.3%) had history of varicella infection during the first year of life. In 12 children no overt infection with varicella was remembered. None was immunized against varicella. Out of the 19 children, only two were immunosuppressed - six year old male child with nephrotic syndrome on steroids and 14 year old child with bronchial asthma on steroids.

Thoracic dermatomes (55%) (Figure 3) and lumber dermatomes (35%) were the most frequent skin localizations seen with HZ in children (figure 3). One child had the sacral involvement and one child came with herpes zoster ophthalmicus (Figure 4). None had dissemination or multi-dermatomal involvement. Left side (12 children) of the body was more commonly involved than right side (7 children).

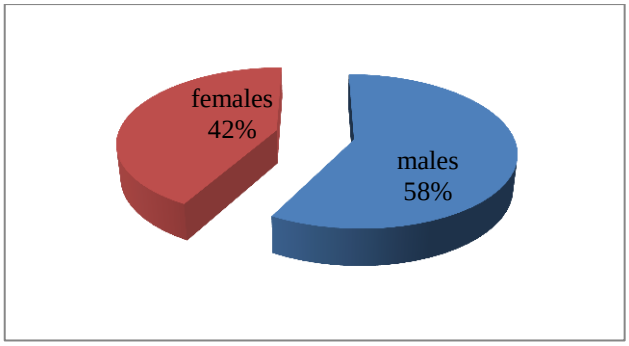

Figure 2: Sex distribution of children with herpes zoster.

Complications of HZ were observed in 5 (26.3%) of the 19 children. Superinfection of the involved skin was seen in three cases while a 13 year old child had post herpetic neuralgia lasting for four months after healing of skin lesions. One child with nephrotic syndrome had both superinfection and PHN. None of the children had any serious complications like keratitis, facial nerve paralysis (Ramsay Hunt syndrome) or meningoencephalitis. All of the children in the present study recovered completely.

Figure 3: Vesicles and crusted papules in a 10 year old boy with right thoracic segmental herpes zoster.

DISCUSSION

Primary infection with varicella-zoster virus (VZV) is more common in children, whereas its reactivation infection, herpes zoster is encountered in the aged. The age adjusted incidence rate of herpes zoster is only 0.45 per 1000 persons in children below 14 years, but becomes as high as 4.5 per 1000 persons in those aged 75 and above.[6] In the present study only one case was seen in the age group of less than five years. The majority of cases of shingles occur in children after the age of 5 years, among all the reported cases of shingles, less than 10% are under 20 years, and 5% were under 15 [7], and incidence of 0.74 per 1000 in the population under 9 year.[8] In the current study, the mean age at the diagnosis of zoster was 9.8 years, which is similar to the findings of Takayama et al and Wootton et al but younger than that reported by Petursson et al (11.8 years).[8-10]

Herpes zoster generally has not been considered to have a sex predilection. However, relatively more cases were seen in male children (58%). This agrees with the studies of Grote et al.[11] and Wen SY who have observed similar finding in a large population groups among children.[12]

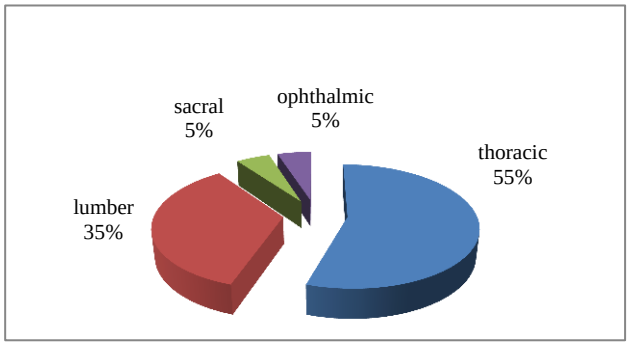

Figure 4: Segmental involvement in children with herpes zoster.

As in previous studies, the occurrence of varicella during the first year of life was confirmed to be a risk factor for HZ during childhood; in the present study, 26.3% of the patients with HZ had varicella during their first year of life.[13,14] Thoracic segment involvement was seen in 55% of the children in the present study. This agrees with the study of Grote V et al who found thoracic segment involvement to be most common in 44%.[11]

Figure 5: Vesicles, crusted papules and erythema in a two year old male child with herpes zoster ophthalmicus.

Among the patients presenting with herpes zoster only two were immunosuppressed, rest 17 children (89%) were healthy. Although many studies have been reported on herpes zoster among immunosuppressed but there are studies of the herpes zoster in healthy immunocompetent children.[11,15-17]

Furthermore, post herpetic neuralgia was observed only rarely (i.e., in only 2 children) in the present study, confirming that it is a rare event during childhood [13,18]-in contrast with a risk of ~50% in patients with HZ who are ⩾60 years of age.[19] All of the patients in the present study recovered completely.

Ophthalmic zoster, irrespective of the child's age or the severity of the rash, is known to be associated with complications in ~50% of patients who do not receive virostatic treatment.[20] Treatment reduces the complication rate to ~20%.[21] In the present study, the two year old boy with ophthalmic zoster was treated with acyclovir and recovered completely.

CONCLUSION

Herpes zoster in childhood is uncommon and cases are seen both in immune-compromised as well as healthy children. It is important and very easy to pick up as differential diagnosis of vesicular eruptions in children. Prompt treatment and adequate wound care reduces the course as well as complications in the children. There are limited population-based data regarding paediatric herpes zoster (HZ) and the current study adds to the existing literature.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Dworkin RH, Johnson RW, Breuer J, Gnann JW, et al. Recommendations for the management of herpes zoster. Clin Infect Dis. 2007;44 Suppl 1:S1-26.
2. Nagasako EM, Johnson RW, Griffin DR, Elpern DJ, Dworkin RH. Geographic and racial aspects of herpes zoster. J Med Virol. 2003;70 Suppl 1:S20.
3. Lyons F, Ousley LE. Common dermatological conditions. Dermatology for the Advanced Practice Nurse. Springer publishing house. 2014;184.
4. Gnann JW, Whitley RJ. Herpes zoster. N Engl J Med. 2002;347:340-6.
5. Wurzel CL, Kahan J, Heitler M, Rubin LG. Prognosis of herpes zoster in healthy children. Am J Dis Child. 1986;140:477-8.
6. Kurlan JG, Connelly BL, Lucky AW. Herpes zoster in the first year of life following postnatal exposure to Varicella-zoster virus: Four case reports and a review of infantile herpes zoster. Arch Dermatol. 2004;140:1268-72.
7. Teran CG, Villarroel P, Teran-Escalera CN. . Herpes zoster in healthy children Int J Infect Dis. 2008;26(6):e159-60.
8. Kakourou T, Theodoridou M, Mostrou G, Syriopoulou V, Papadogeorgaki H, Constantopoulos A. Herpes zoster in children. J Am Acad Dermatol. 1998;39(2 pt 1):207-10
9. Petursson G, Helgason S, Gudmundsson S, Sigurdsson JA. Herpes zoster in children and adolescents. Pediatr Infect Dis J. 1998;17(10):905-8.
10. Wootton SH, Law B, Tan B, Mozel M, Scheifele DW, Halperin S. IMPACT Investigators. The epidemiology of children hospitalized with herpes zoster in Canada: Immunization Monitoring

Program, Active (IMPACT), 1991-2005. Pediatr Infect Dis J. 2008;27(2):112-8.
11. Grote V, von Kries R, Rosenfeld E, Belohradsky BH, Liese J. Immunocompetent children account for the majority of complications in childhood herpes zoster. J Infect Dis. 2007;196(10):1455-8.
12. Wen SY, Liu WL. Epidemiology of pediatric herpes zoster after varicella infection: a population-based study. Pediatrics. 2015;135(3):e565-71.
13. Guess HA, Broughton DD, Melton LJ, Kurland LT. Epidemiology of herpes-zoster in children and adolescents—a population-based study. Pediatrics. 1985;76:512-7.
14. Hope-Simpson RE. The nature of herpes zoster: a long-term study and a new hypothesis. Proc R Soc Med. 1965;58:9-20
15. Iyer S1, Mittal MK, Hodinka RL. Herpes zoster and meningitis resulting from reactivation of varicella vaccine virus in an immunocompetent child. Ann Emerg Med. 2009;53(6):792-5.
16. Teran CG, Villarroel P, Teran-Escalera CN. Herpes zoster in healthy children. Int J Infect Dis. 2008;12(6):e159-60.
17. Wood SM1, Shah SS, Steenhoff AP, Rutstein RM. Primary varicella and herpes zoster among HIV-infected children from 1989 to 2006. Pediatrics. 2008;121(1):e150-6.
18. Rogers RS 3rd, Tindall JP. Herpes zoster in children. Arch Dermatol. 1972;106:204-7.
19. Oxman MN. Clinical manifestations of herpes zoster. In: Arvin AM, Gershon AA, editors. Varicella-zoster virus: virology and clinical management. Cambridge: Cambridge University. 2000;246-75.
20. Opstelten W, Zaal MJ. Managing ophthalmic herpes zoster in primary care. BMJ. 2005;331:147-51.
21. Cobo LM, Foulks GN, Liesegang T, et al. Oral acyclovir in the treatment of acute herpes zoster ophthalmicus. Ophthalmology. 1986;93:763-70.

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