

## Original Research

### Assessment of cases of Herpes zoster

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#### ABSTRACT:

**Background:** Herpes zoster (HZ), also referred to as shingles, is a neurocutaneous viral infection that arises from the reactivation of the latent varicella-zoster virus. The present study was conducted to assess cases of Herpes zoster (HZ). **Materials & Methods:** 46 child patients with Herpes zoster (HZ) of both genders were selected. Parameters such as comorbidities, treatment received for HZ infection, the season in which they were infected and complications were recorded. **Results:** Out of 46 patients, males were 26 and females were 20. The dermatomal area involved was thoracic segment in 23, cervical in 7, lumbar in 6, sacral in 5 and trigeminal segment in 5 patients. The season was winter in 32, spring in 10, and autumn in 4 patients. Comorbid diseases were anxiety disorder in 2 patients, atopic dermatitis in 1 and malignancy in 1 patient. Treatment given was acyclovir in 28, Brivudine in 14 and valacyclovir in 6 patients. The difference was significant ( $P < 0.05$ ). **Conclusion:** The incidence of HZ infection in childhood is thought to be rare and associated with underlying immunological dysfunction. The most commonly involved dermatomal area was thoracic segment, cervical, lumbar, sacral and trigeminal segment. The season was winter, and spring.

**Keywords:** Herpes zoster, cranial nerve, viral infection

Received: 08 October, 2018

Accepted: 12 November, 2018

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**This article may be cited as:** Purohit A, Aggarwal A. Assessment of cases of Herpes zoster. J Adv Med Dent Scie Res 2018;6(12):105-108.

#### INTRODUCTION

Herpes zoster (HZ), also referred to as shingles, is a neurocutaneous viral infection that arises from the reactivation of the latent varicella-zoster virus (VZV), which is normally found inside the dorsal root ganglia or cranial nerve after the initial infection.<sup>1</sup> The infection first manifests clinically as a macular rash, which within 24 hours develops into a vesicular skin eruption in the afflicted ganglia's sensory dermatomal area. This eruption is typically accompanied by a prodrome of pain, itching, and paraesthesia. In due order, the vesicles burst, cause crusting, and then resolve with or without changes in the pigmentation of the skin.<sup>2</sup> With a 10 – 30% fatality rate, it is more common in adults (particularly those with impaired cellular immunity) but uncommon in youngsters in good condition. Growing older is the biggest risk factor for infection. Additional disorders that result in lowered cellular immunity include lymphomas, leukemia, transplants of bone marrow and other organs, infection with the human immunodeficiency

virus, chemotherapy, and physical trauma. It has been discovered that white people and women are more likely to have HZ.<sup>3</sup>

The most frequent consequence is postherpetic neuralgia (PHN), which is the chronic pain (which can last anywhere from a few months to a lifetime) that an unfavorably high percentage of patients endure even after their acute disease has resolved. In the adult population, trigeminal nerve affection has been linked to ocular problems.<sup>4</sup> In addition to peripheral nerve injury (PHN), there is a chance of developing cutaneous complications like temporary segmental paralysis, neurological complications like meningitis, encephalitis, and trigeminal trophic syndrome, ocular complications like glaucoma, uveitis, keratitis, acute and retinal necrosis, secondary bacterial infection, and long-lasting lichenoid lesions.<sup>5</sup> The present study was conducted to assess cases of Herpes zoster (HZ).

**MATERIALS & METHODS**

The present study consisted of 46 child patients with Herpes zoster (HZ) of both genders. Parents gave their written consent to participate in the study. Data such as name, age, gender etc. was recorded. Parameters such as comorbidities, treatment received

for HZ infection, the season in which they were infected and complications were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 46		
Gender	Male	Female
Number	26	20

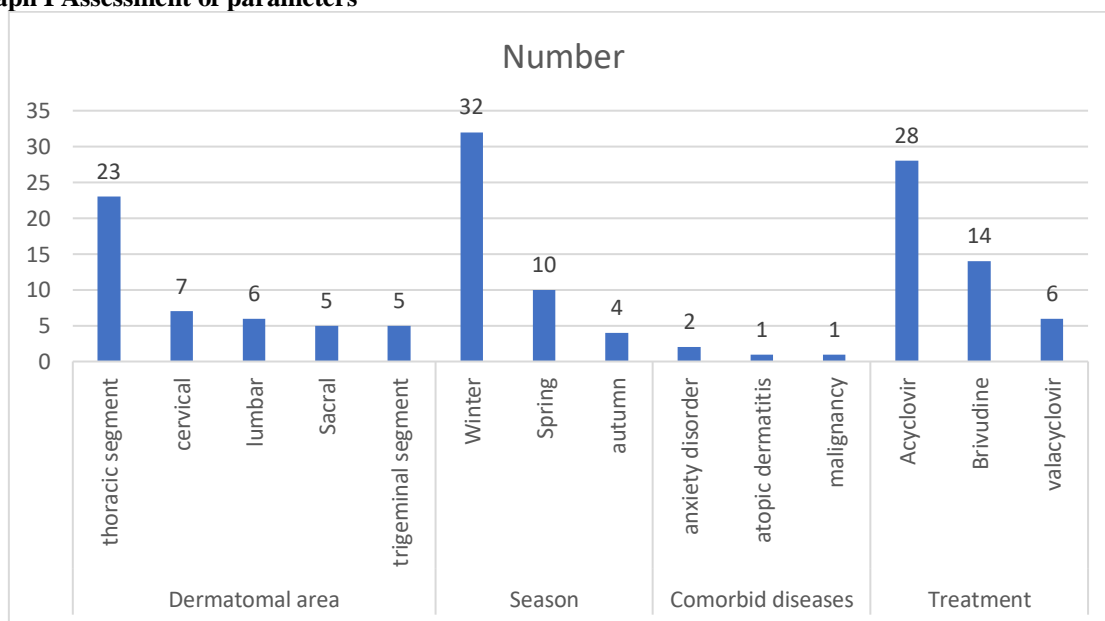
Table I shows that out of 46 patients, males were 26 and females were 20.

**Table II Assessment of parameters**

Parameters	Variables	Number	P value
Dermatomal area	thoracic segment	23	0.05
	cervical	7	
	lumbar	6	
	Sacral	5	
	trigeminal segment	5	
Season	Winter	32	0.04
	Spring	10	
	autumn	4	
Comorbid diseases	anxiety disorder	2	0.82
	atopic dermatitis	1	
	malignancy	1	
Treatment	Acyclovir	28	0.71
	Brivudine	14	
	valacyclovir	6	

Table II, graph I show that dermatomal area involved was thoracic segment in 23, cervical in 7, lumbar in 6, sacral in 5 and trigeminal segment in 5 patients. The season was winter in 32, spring in 10, and autumn in 4 patients. Comorbid diseases were anxiety disorder in 2 patients, atopic dermatitis in 1 and malignancy in 1 patient. Treatment given was acyclovir in 28, Brivudine in 14 and valacyclovir in 6 patients. The difference was significant (P< 0.05).

**Graph I Assessment of parameters**



## DISCUSSION

Herpes zoster infection (shingles) occurs due to reactivation of the varicella zoster virus (VZV) usually contracted during childhood. VZV can remain latent in the dorsal sensory or cranial nerve ganglia. It is known that impairment in the cellular immune response is determinative in the formation of this infection.<sup>6,7</sup> Diagnosis of herpes zoster is usually made upon clinical findings and is typically characterized by a dermatomal and unilateral vesicular rash and pain.<sup>8,9</sup> However, this affliction may also present atypical clinical symptoms such as Zoster Sine Herpete (pain, burning, itching without skin rash), affecting non-adjacent dermatomes and bilateral shingles.<sup>10,11</sup> The present study was conducted to assess cases of Herpes zoster (HZ).

We found that out of 46 patients, males were 26 and females were 20. Katakam et al<sup>12</sup> reviewed a total number of 26 cases of HZ. Out of 26 cases, 54% (14) were females and 46% (12) were male children. 69% (18 children) were between the age group of 2 and 12 years and 31% (8) were above the age of 12 years. The lowest age was 3 years and the highest was 17 years. Out of 26, 30% (8) children were vaccinated, 54% (14) were not vaccinated and in 16% (4) children, history of vaccination was not known. In 54% (14) children, there was a history of varicella infection and in 46% (12), there was no history of infection in early age. There was no history of prodromal symptoms or mild prodromal symptoms like fever and lassitude between the age group of 2 and 12 years (18 cases), whereas prominent prodromal symptoms were seen in above 12 years (8 cases) of age. The lesions were multiple, grouped vesicles on erythematous base involving unilateral, single dermatome. Mild pain and burning sensation were observed in the age group of 2 to 12 years whereas moderate pain and burning sensation were seen in above 12 years of age. Thoracic dermatomal involvement was observed in 54% (14) cases. In remaining 12 cases, there is involvement of head 15.3% (4), upper limbs 15.3% (4) and lower limbs 15.3% (4). In a 14-year-old child, there was involvement of left external ear and face but there were no symptoms and signs of 7th and 8th cranial nerve involvement.

We found that the dermatomal area involved was thoracic segment in 23, cervical in 7, lumbar in 6, sacral in 5 and trigeminal segment in 5 patients. The season was winter in 32, spring in 10, and autumn in 4 patients. Comorbid diseases were anxiety disorder in 2 patients, atopic dermatitis in 1 and malignancy in 1 patient. Treatment given was acyclovir in 28, Brivudine in 14 and valacyclovir in 6 patients. Küçükçakır O et al<sup>13</sup> found that Herpes zoster patients comprised 0.56% of all patients who presented to our department. Their ages ranged from 6 months to 87 years (mean age: 49.6, median age: 53). The number of women and men was almost equal. Admissions were higher in January and December, with thoracic

involvement being the most frequent one. Zoster was not a precursor of any occult malignancies. The most commonly associated systemic disease was cardiovascular disease. Pediatric cases comprised 7.4% of cases. Complications developed in 21.4% of patients. The most common complication was postherpetic neuralgia.

Opstelten Wet al<sup>14</sup> determined the incidence of HZ and PHN in a primary care population and to identify risk indicators for the occurrence of PHN. Potential risk indicators were analysed using multivariate logistic regression. A total of 837 patients had been diagnosed with HZ [incidence 3.4/1000 patients/year, 95% confidence interval (CI) 2.9-3.9]. The risk of developing PHN 1 month after the start of the zoster rash was 6.5% (95% CI 4.9-8.3). This risk was 11.7% (95% CI 8.5-14.9) for patients aged > or =55 years. Independent risk indicators for the occurrence of PHN were age [55-74 years, adjusted odds ratio (OR) 4.2, 95% CI 1.8-9.7; >75 years, OR 10.7, 95% CI 4.6-25.1] and ophthalmic localization (OR 2.3, 95% CI 1.0-4.6).

The limitation of the study is the small sample size.

## CONCLUSION

Authors found that the incidence of HZ infection in childhood is thought to be rare and associated with underlying immunological dysfunction. The most commonly involved dermatomal area was thoracic segment, cervical, lumbar, sacral and trigeminal segment. The season was winter, and spring.

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