

A COMPREHENSIVE CLINICOEPIDEMIOLOGICAL ANALYSIS OF HERPES ZOSTER IN A TERTIARY CARE CENTRE

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ABSTRACT

Background: Herpes zoster caused by the reactivation of the varicella-zoster virus is a major health burden in all age groups. Prodromal features like Fever, pain and itch are common before the onset of zoster rash. The most common complication associated with this disease is post-herpetic neuralgia.

Methods: 179 cases of herpes zoster patients who attended DVL OPD, in GGH, Vijayawada from January 2023 to December 2023 were analysed. The study design is a descriptive study. A detailed history taking, thorough clinical examination and appropriate relevant investigations were done.

Results: This study included 179 herpes zoster patients- male 92 (51.3%), and female 87 (48.6%) and the mean age group was 44.7 years. 4% (8 cases) were <20 years of age. 21.7% (39 cases) were between 20-40 years. 60.8% (109 cases) were between 40-60 years. 12.8% (23 cases) belong to age >60. The most common primary site of involvement was the thoracic dermatome which was found in 43% of cases in our study. Prodromal symptoms

were present in 90% of cases. The most common complication was post-herpetic neuralgia-41.3%.

Conclusions: All age groups are susceptible to herpes zoster with a higher incidence in elderly patients and those with immune-compromised status. Treatment with antivirals within 72 hours of the onset of the rash has shown a significant reduction in severity and complications.

Keywords: Herpes zoster, Postherpetic neuralgia, prodromal symptoms

1. INTRODUCTION

Herpes zoster or shingles, occurs due to the reactivation of varicella zoster virus [1]. Zoster is derived from the Greek word Zostrix meaning belt, and Shingles from Latin word Cingulus meaning belt. Herpes zoster can afflict people of any age, but it is more common in adults over 50 because of immunosenescence brought on by ageing, while it can also affect people with reduced cell-mediated immunity from drugs or disorders. [2,3]. Most common in individuals above 50 years of age. The peak incidence of herpes zoster is documented in the 60–69 age group [4]. The most common complication is post-herpetic neuralgia [7]. Postherpetic neuralgia, bacterial infections, ocular involvement, neurological involvement, and disseminated herpes zoster are documented as common manifestations warranting hospitalization [8,9].

2. METHODS

A descriptive study of 179 cases of herpes zoster patients who attended Dermatology OPD, in the government general hospital, Vijayawada, Andhra Pradesh, India from January 2023 to December 2023. A detailed history taking, thorough clinical examination and appropriate relevant investigations were done. Appropriate statistical analysis was done using SPSS software.

Ethical approval: The study was approved by the institutional ethics committee.

Inclusion criteria:

1. Herpes Zoster patients of either sex of all age groups.
2. Patients willing to give consent and for regular follow-up.

Exclusion criteria:

1. Patients not willing to give consent.

3. RESULTS

The mean age group of the 179 herpes zoster patients (male-92, female-87) was 44.7 years. 4% (8 cases) were <20 years of age. 21.7% (39 cases) were between 20-40 years. 60.8% (109 cases) were between 40-60 years. 12.8% (23 cases) belong to age >60. 51.3% were male and 48.6% were female.

The following Segmental distribution was observed in our study. Thoracic-43% (77 cases), cervical-23.4% (42 cases), lumbar-16.2% (29 cases), sacral- 5% (9 cases) herpes zoster ophthalmicus-8.9% (16 cases), herpes zoster oticus-3.35% (6 cases) and multi-dermatomal - 9.4% (17 cases).

The predisposing factors observed in our study were 28.4% (51 cases) diabetic, 5% (9 cases) HIV, on steroid therapy 1.11% (2 cases) and 2.7% (5 cases) following surgery/trauma. 45.2% (81 cases) had a history of native treatment.

Prodromal symptoms were present in 90% (162 cases). Neuralgic pain in 71.5% (128 cases) followed by burning sensation in 25.1% (45 cases). Fever, headache, tingling sensation, watering from eyes, and itching were other prodromal symptoms. Most of the patients (54.7%) presented within 2 days of the onset of the rash and the average time of presentation was 3.2 days. In 5.5% of cases (10 cases), there was no preceding history of varicella or chicken pox.

Complications of herpes zoster seen in our study were postherpetic neuralgia-41.3% (74 cases), secondary bacterial infection in 8.9% (16 cases), conjunctivitis in 6.7% (12 cases) and scarring in 2.7% (5 cases).

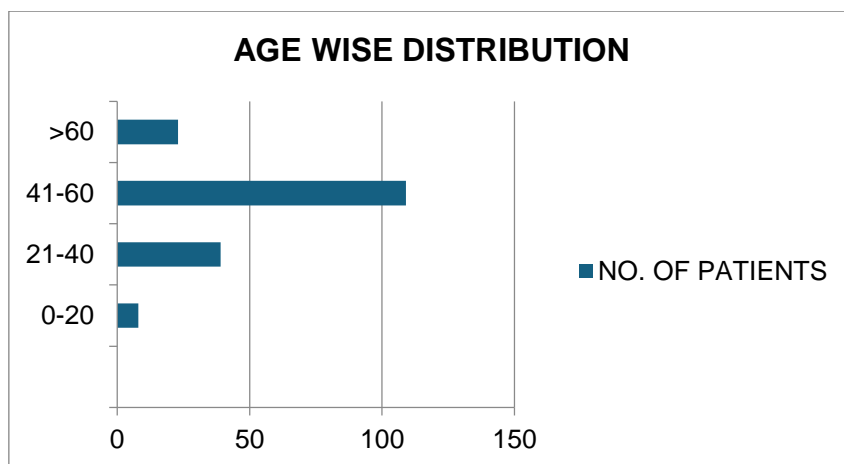


Figure 1: Age-wise distribution of patients with Herpes zoster

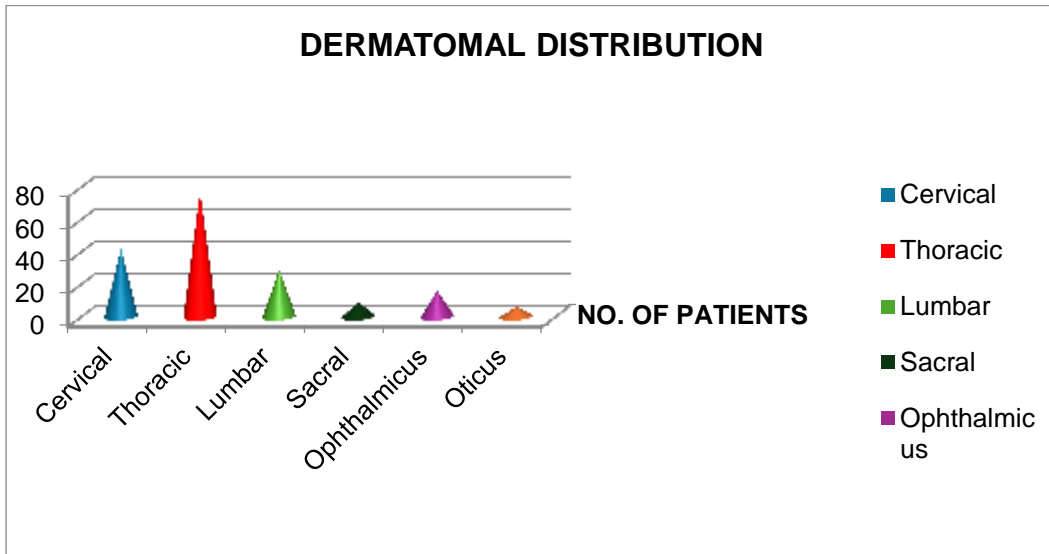


Figure 2: Dermatomes involved in Herpes zoster

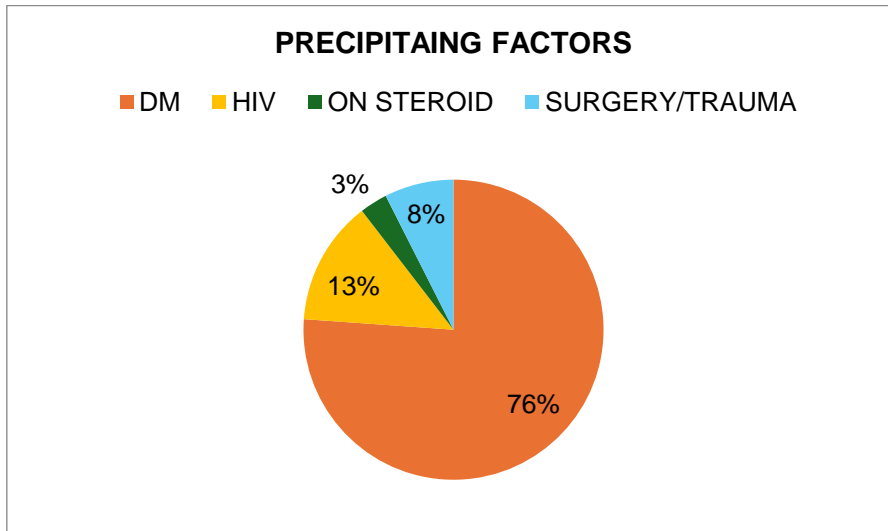


Figure 3: Precipitating factors of Herpes zoster



Figure 4: (A) Grouped vesicles on the erythematous base of multi-dermatomal involvement in 15-year-old HIV patient (Left C8, T1, T2). (B) Vesicles resolved and scar formed in 8 days.



Figure 5: Herpes ophthalmicus (Right side) with conjunctival congestion and watering of eye.



Figure 6: Grouped papules and vesicles on an erythematous base of multi-dermatomal involvement in 12-year-old girl (Right T12, L1 – L3 dermatome)



Figure 7: Post Herpes zoster keloid on Left T6, T7 dermatome



Figure 8: Herpes zoster on Left L1,S1,S2,S3 dermatome with vulval oedema in a HIV patient

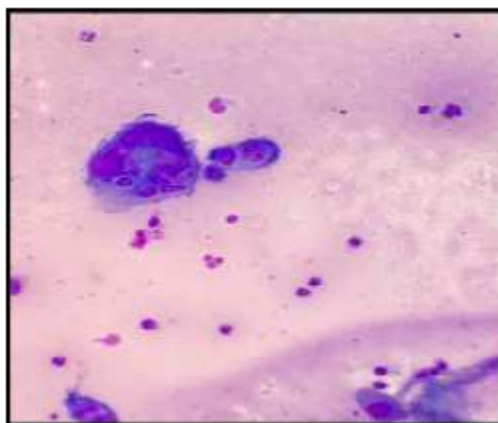


Figure 9: Multinucleated giant cells on Tzanck smear

4. DISCUSSION

Herpes zoster occurs due to the reactivation of latent Varicella Zoster Virus (VZV) in patients who previously had clinical or subclinical varicella infection [13]. The most important factor is immune suppression which can be due to HIV, lymphoma, leukemia, or due to chemotherapy. In many patients, the only risk factor is increasing age.

Prodromal illness precedes the rash by a few hours to several days in most of the patients. In some cases, there can be frequent itching or pain that develops even before the appearance of the rash- zoster sine herpette, where there can be a chance of a delayed diagnosis of the disease. The active phase begins following the prodromal phase with characteristic skin lesions such as papules or macules with an erythematous base which progresses to form vesicles within 12–24 hours and then progresses to form pustules in 1- 7 days [15]. The involvement of more than 20 lesions is considered as dissemination, but the time course of the disease must also be considered. Finally, the resolution phase comes where the crusting in the lesions occurs around 14–21 days. The chronic phase of the disease is associated with the

development of post-herpetic neuralgia, involvement of cranial nerves / motor nerves and involvement of visceral organs.

In our study, the incidence of herpes zoster was high in males (51.3%) contrary to the study of Kim et al [7]. In the study done by Dubey et al, the most common age cohort affected was between 14 to 29 years and the presentation mean age was 37.65 years [16]. This study showed that the most common age group affected was between 41 to 60 years and the mean age was 44.7 years.

Time of presentation of our patients was within 2 days in 54.7% of patients while it was 81% and 45% in the studies done by Dubey et al as well as by Goh CL, respectively [17][18]. Early presentations in all these patients could be attributed to the pain and discomfort associated with herpes zoster.

The most common prodromal symptom was pain (71.5%) similar findings noted by Goh CL and Khoo L [17]. Out of 17 patients who lacked prodromal symptoms, 9 patients were HIV positive. This shows that HIV-positive patients may present with 'silent' or painless herpes zoster. 28.4% of our patients have been diabetic and 5% were HIV positive, a previous study by Kim et al showed 50% were diabetic and 5% were HIV positive [4].

The dermatomal distribution of herpes zoster in our study in descending order is thoracic, cervical, ophthalmicus, lumbar, multi-dermatomal, sacral, and oticus.

The most common primary site of involvement was the thoracic dermatome which was found in 43% of cases in our study. A similar observation of the common involvement of thoracic dermatome was made by Goh et al and Talwar et al [17][18]. Out of 17 patients with multi-dermatomal involvement in our study, 7 patients (41.1%) were found to be HIV positive. Two patients had disseminated Herpes zoster, both were HIV positive. This suggests that patients with multidermatomal or disseminated herpes zoster should be screened for HIV infection. 41.3% of our patients had post-herpetic neuralgia and secondary bacterial infection in 8.9% in contrast to 50% and 35% of the Kim et al study [7].

5. CONCLUSION

The most common presentation of Herpes zoster infection is acute vesiculobullous eruption with radicular pain in a unilateral dermatomal distribution, most common in the thoracic region. Herpes zoster was most seen in the fourth decade of life and paediatric as well as adolescent patients were also affected. The most common prodromal symptom was pain.

In most cases, the diagnosis can be made clinically. Antiviral therapy is most beneficial for persons who have complications of herpes zoster or who are at increased risk for complications and should be initiated as soon as possible, generally within 72 hours after the onset of the rash. The growing burden and changing epidemiology of Herpes zoster in the Asia-Pacific region demands a call to act.

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Conflict of interest: Nil

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