

## CLINICAL PRESENTATION OF 150 CASES OF HERPES ZOSTER IN A TERTIARY CARE HOSPITAL, COIMBATORE

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### Abstract

**Background:** Varicella Zoster virus is the causative agent of Herpes Zoster. It occurs due to the reactivation of the dormant virus which is present in the sensory root ganglia. It affects all age group and common in immune compromised patients. The aim of the study is to find the clinical presentation of herpes zoster. **Materials and Methods:** A total of 150 patients diagnosed of Herpes zoster attending the Outpatient Department of the Department of Dermatology, Venereology and Leprosy in Coimbatore Medical College were included in the study based on the inclusion and exclusion criteria. Baseline history, Physical examination and laboratory investigations were done. The collected data was entered in MS excel and Statistics were done with the SPSS 16. Categorical variables were expressed in the terms of numbers and percentages. P value <0.05 is considered as significant. **Results:** In our study majority of the study participants 41(27.3%) belongs to 51-60 years of age category. Male preponderance 107(71.3%) was observed in our study. Among the study participants 126(66.7%) reported the prodromal symptoms. The most common prodromal symptom reported was pain in the dermatome. The most common associated illness observed is Diabetes mellitus and the most common complication noted is the post herpetic neuralgia. **Conclusion:** Early diagnosis and initiation of the treatment for Herpes zoster prevents the diseased person from developing severity and complications and postherpetic neuralgia. HIV screening has to be done to all the herpetic patients as it is the most common associated illness.

## INTRODUCTION

Herpes Zoster occurs as a result of reactivation of the virus which is present in dormant state in the sensory root ganglia following the varicella infection. This infection is caused by the Varicella zoster virus (VZV). Herpes Zoster is otherwise called as 'Shingles'. The term is derived from the latin word 'cingulus' which means girdle. Varicella infection occurs in both clinical and subclinical state.<sup>[1]</sup> The virus is host specific.<sup>[2]</sup> This infection occurs in human naturally. The varicella prevalence has reduced as a result of wider use of varicella vaccination.<sup>[3]</sup> Thus the chances of getting periodic re-exposure due to varicella has been reduced which in turn reduces the natural immunity which increases the incidence of the infection.<sup>[4]</sup>

Adults above 50 years are more prone for developing herpes zoster infection as a result of waning immunity associated with the advancing age. Peak incidence of this infection was documented in the 60-69 years age group. But

herpes can occur in any age group and most commonly in patient with suppressed cell mediated immunity which may be due to drugs or diseases.<sup>[5,6]</sup> It usually affects one or more dermatomes. The most common dermatome to get affected is the Thoracic followed by Cervical, Lumbar, Sacral and the Trigeminal. Many complications like cutaneous, visceral, Ocular and Neurologic will occur in herpes zoster infection. The most debilitating complication is the Post herpetic neuralgia. The risk of getting PHN usually occurs in advancing age and in immune compromised patients. The vaccine which was introduced in 2005 has reported likely to reduce the incidence of herpes zoster.

## MATERIALS AND METHODS

Hospital based cross sectional study was conducted in the Department of Dermatology, Coimbatore Medical College, Coimbatore which is a tertiary care center. The study was done for a period of one year, from July 2015 to June 2016.

### Sample Size

Based on the inclusion and the exclusion criteria the eligible study participants were recruited throughout the study period. The finally obtained sample size is 150.

### Inclusion Criteria

- Patients with zoster within 6 weeks duration of all age groups

### Exclusion Criteria

- Patients with zoster for more than 6 weeks' duration attending for the first time
- Patients with complicated herpes zoster like disseminated infection, visceral involvement
- Pregnant women
- HIV Positive patients

After obtaining the Institutional Ethical committee clearance the study was conducted for one year. Baseline characteristics like Age, Sex, Associated comorbidities and the distribution of the lesions were noted. Dermatological examination was done completely and when it is necessary to confirm the diagnosis Tzanck smear was done.

### Statistical Analysis

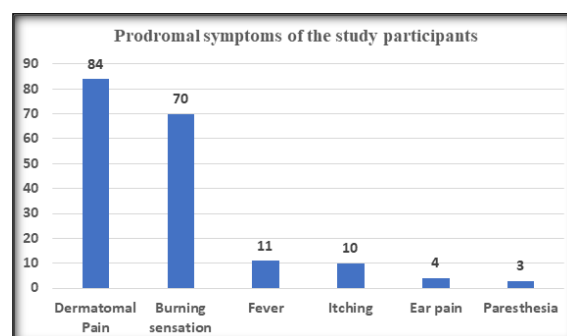
The collected data was entered in MS excel and Statistical analysis was done in SPSS 23. Continuous data were expressed in terms of Mean and Standard deviation. Categorical variable was expressed in terms of numbers(percentages). P value of <0.05 is considered as significant.

## RESULTS

**Table 1: Age wise distribution of Herpes Zoster**

| Age group | Male | Female | Number(%) |
|-----------|------|--------|-----------|
| 1-10      | Nil  | 3      | 3(2%)     |
| 11-20     | 4    | 2      | 6(4%)     |
| 21-30     | 8    | 6      | 14(9.3%)  |
| 31-40     | 27   | 2      | 29(19.3%) |
| 41-50     | 19   | 6      | 25(16.7%) |
| 51-60     | 21   | 20     | 41(27.3%) |
| 61-70     | 16   | 3      | 19(12.7%) |
| 71-80     | 10   | 1      | 11(7.3%)  |
| 81-90     | 1    | 0      | 1(0.7%)   |
| 91-100    | 1    | 0      | 1(0.7%)   |
| Total     | 107  | 43     | 150(100%) |

Among the study participants, 107(71.3%) were males and 43(28.7%) were females. Age wise distribution portrays us that 77 study participants were below 50 years of age and 73 were above 50 years of age. Majority of the study participants 41(27.3%) falls in the 51-60 years of age group which is followed by 29(19.3%) in 31-40 years of age and 25(16.7%) in 41-50 years of age group. Minimum cases were noticed above 80 years of age i.e in 81-90 years of age and in 91-100 years of age. The youngest age noted in our study was 9 years and the oldest age was 92 years.



**Figure 1: Prodromal symptoms of the study participants**

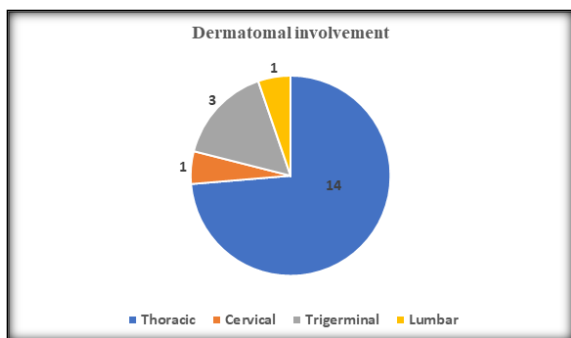
In our study among 126(66.7%) study participants have prodromal symptoms. The most common prodromal symptom noted is Dermatomal pain among 84(55.6%) study participants followed by burning sensation 70(55.6%).

**Table 2: Associated illness of herpes Zoster**

| Associated Illness     | Male    | Female | Number (%) |
|------------------------|---------|--------|------------|
| Diabetes Mellitus      | 7       | 4      | 11(61%)    |
| HIV                    | 3       | 0      | 3(16.7%)   |
| Pulmonary tuberculosis | 1       | 1      | 2(11%)     |
| Steroid therapy        | 1       | 0      | 1(5.5%)    |
| Malignancy             | 1       | 0      | 1(5.5%)    |
| Total                  | 13(72%) | 5(28%) | 18(100%)   |

Among our study participants ,18(12%) have the history of associated illness like Diabetes Mellitus, HIV, Pulmonary tuberculosis, Malignancy and the

steroid therapy. Of them majority 11 (61%) have Diabetes Mellitus followed by HIV - 3(16.7%).



**Figure 2: Dermatomal involvement(N=19)**

The most common dermatome affected among our study participants were Thoracic 14(82%) followed by Trigeminal dermatome 3 (17.6%) and 1 (5.9%) each by Cervical and Lumbar.

**Table 3: Complications of herpes Zoster**

| Complications       | Male | Female | Numbers(%) |
|---------------------|------|--------|------------|
| PHN                 | 19   | 14     | 33(73.3%)  |
| Secondary infection | 2    | 2      | 4(8.9%)    |
| Scarring            | 5    | 2      | 7(15.6%)   |
| Keloid              | 0    | 1      | 1(2.2%)    |
| Total               | 26   | 19     | 45(100%)   |

## DISCUSSION

In our study out of the 150 study participants the majority of the study participants 41(27.3%) were in the 51-60 years of age group. Similar results was observed in the Rachana et al study in which the majority of the study participants were in the age group of 51-70 years of age. In contrast to our results Baghel et al.<sup>[2]</sup> stated in their study that majority of the study participants were in the age group of 20-40 years of age. In Ramesh et al.<sup>[7]</sup> study it was found that the majority of the study participants were in the age group of 41-50 years of age.

Male preponderance is observed in our study 107(71.3%). Similar results was also observed in studies of Ramesh et al.<sup>[7]</sup>, Chaudhary et al (8), Baghel et al (2) and Mathur et al.<sup>[9]</sup> Concurrence without study results Seghal et al.<sup>[10]</sup> also stated in their study that 68.7% were males and 31.3% were females and in Nigam et al study.<sup>[11]</sup> 69.8% were males and 30.2% were of females.

Prodromal symptoms were found to be more in our study 126(66.7%) which is in concurrence with Chandrakala et al.<sup>[12]</sup> study where she stated that around 85% of her study participants have prodromal symptoms. The most common symptoms observed in both the study is the pain in the dermatome during the pre eruptive stage. Our results were in contrast to the study done by Pavithran K et al.<sup>[13]</sup> study where the incidence of the prodromal symptoms were lesser.

The most common dermatome which is affected in our study is the Thoracic dermatome 14(82%) followed by Trigeminal dermatome. This is similar to the results of Pavithran K et al study.<sup>[13]</sup>, Chandrakala et al study.<sup>[12]</sup> The literature states.<sup>[14]</sup> that the other frequently affected dermatomes were Lumbar and the cervical dermatomes. Sacral dermatome is the least commonly affected dermatome.

The most common provocative factors observed in our study is Diabetes Mellitus 11(61%) followed by HIV 3(16.7%). The other provocative factors observed were the Pulmonary tuberculosis, Malignancy and the Steroid therapy. Literature states.<sup>[15]</sup> that the depressed cell mediated immunity which is associated with the above conditions are the sole reason for the herpes zoster.

In our study the HIV seropositive patients were higher (16.7%) which in concurrence with the Chandrakala et al study. In contrast studies done by Kar and Ramasastry et al study stated that there are less HIV seropositive patients

### Limitation

The main limitation of the study is that it is a single centric study and we didn't compare the disease with the season. Secondly in our study we didn't find the association with the place of residence, Socioeconomic status and the Religion.

## CONCLUSION

It is concluded in our study that most common age group to get affected is 51-60 years of age. Male preponderance was observed in our study. The most common prodromal symptom in our study is pain in the dermatome. The most common associated illness is the Diabetes Mellitus followed by the HIV infection. Post Herpetic Neuralgia was the most common complication observed in our study. Most of the diagnosis of the herpes zoster was made based on the clinical presentation. Thus early recognition and initiation of the antiviral treatment especially in the immune compromised and in older age group helps in preventing the severity, complications and post herpetic neuralgia.

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### Competing Interests

There is no Competing Interest

### Author's contribution

All authors in this study contributed to the data collection of the patients

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#### **Recommendations**

It is recommended to do HIV screening test for all the cases of Herpes Zoster as it is the most common comorbidity found in the herpes zoster affected patients. Similarly, the antiviral therapy should be initiated as soon as possible so that we can reduce the complications of herpes zoster. To give the live attenuated VZV vaccine for patients over 50 years of age and above.

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