

**HERPESE ZOSTER: A CLINICAL STUDY**B. Omprakash<sup>1</sup>, Geeta Sharma<sup>2</sup>, Dinesh Chandra Govil<sup>3</sup>, P. Kavitha<sup>4</sup>, S. K. Arora<sup>5</sup>, Sudheer Sharma<sup>6</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT :** The study was conducted between August 2012 and July 2013 at the dermatology department of OPD, 116 cases studied with personal, present, past, family history, examined thoroughly, done all necessary investigations, taken opinion of other faculties where ever necessary . All the patients were reviewed weekly for 1 month and monthly for two more months. Patients 76 were males and 40 were females. Out of 116 cases, 75 (64.6%) had definite history of chicken pox. In this study interesting different to previous studies some features found . Prodromal sign neuralgic pain more in below 20 years. Males more infected. Cranial nerve more involved. Thoracic PHN more. Remaining all detailed study has explained below with routine features.

**KEYWORDS:** Clinical study, Herpes zoster

**INTRODUCTION:** Herpes zoster is a localized disease characterized by unilateral radicular pain and grouped vesicular eruption that is generally limited to the dermatome innervated by a single spinal or cranial sensory ganglion. It occurs as a result of reactivation of varicella zoster virus (VZV) that had persisted in latent form within sensory ganglion following an earlier attack of varicella.<sup>1</sup>

During varicella infection, varicella zoster virus passes from the skin lesions into cutaneous sensory nerve endings and ascends up the sensory fibers to the sensory ganglia where it remains in latent stage.<sup>2</sup> On reactivation it travels back along the sensory afferent to the skin associated with hematogenous dissemination. Depending upon the rapidity of the immune response, the presentation varies from: 1) no clinical lesion, to 2) typical zoster, scattered lesion, zoster sine herpetic or disseminated zoster.<sup>3</sup> Reactivation may be triggered by trauma, sunburn, exhaustion, injection, immunosuppressant or irradiation.

Chickenpox infection during childhood results in an immune response, which leads to VZV-specific cell-mediated immunity. Resolution of the primary infection results in the induction of memory T cells specific for VZV, but the frequency of these T cells and consequent cellular immunity declines over time.<sup>4,5</sup> So, Herpes zoster is seen as a disease of older people (most commonly over 60 years old), and incidence and severity increases with age which may be due to a decline in cellular rather than humeral immunity.<sup>6</sup>

We undertook this study to know the clinical and morphological characteristics of herpes zoster.

**MATERIALS AND METHODS:** The study was conducted between August 2012 and July 2013 at the department of Dermatology. All cases of herpes zoster attending skin OPD and referred cases from

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other departments were studied. One hundred and sixteen consecutive cases of herpes zoster were recruited.

Preliminary information such as age, sex, address, and occupation were noted. A detailed history regarding the prodromal and presenting symptoms, day of occurrence of skin lesions after prodrome, nature of pain, its intensity and duration, and other symptoms if any, were elicited and recorded. Also, history of chicken pox and previous attack of herpes zoster were elicited. History suggestive of provocative factors such as drugs, recent trauma, surgery, irradiation, immunosuppressive and cytotoxic chemotherapy, diabetes mellitus, pulmonary TB, HIV infections were inquired. A thorough dermatological examination regarding the segment of involvement, morphology, and pattern of the lesions, motor complications, dissemination of the lesions in other areas of the body etc. were noted. Whenever necessary, opinion from other specialists such as the ophthalmologist, chest physician, diabetologist, and the general physician were sought. Diagnosis was established by history and clinical examination, Tzanck smears and skin biopsy wherever required.

All the patients were reviewed weekly for 1 month and monthly for two more months. Tzanck smear (in Leishman's stain) examination for ballooned epithelial cells and multinucleated giant cells, complete hemogram, blood sugar, urine routine exam, and enzyme-linked immunosorbent assay test for HIV antibodies were conducted. All the patients were reviewed weekly for 1 month and monthly for two more months.

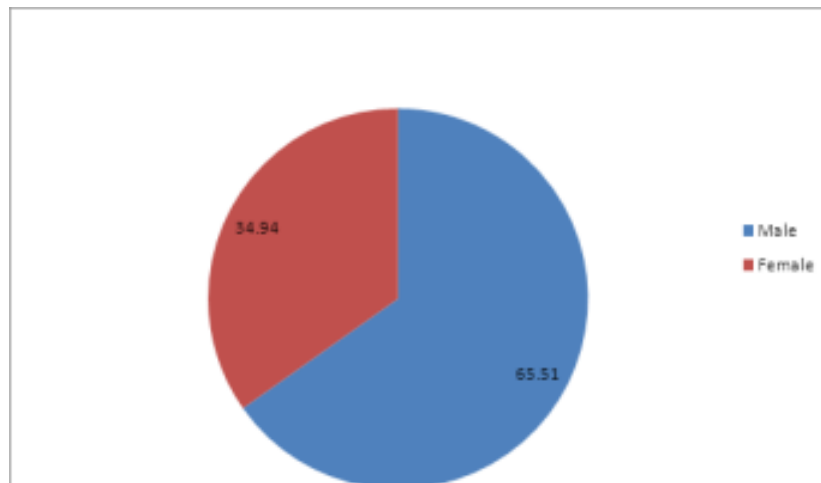
**RESULTS:** Out of 116 cases, 76 were males and 40 were females. The age ranged from 5–83 years. 56 were below 40 years and 60 were above 40 years. The age and sex distribution is given in Table 1 and Pie diagram. The maximum incidence was in the age group of 21–30 years (23.3%), which is followed by that of 31–40 years (20.7%), and 41–50 years (17.2%). Minimum incidence was observed in the age group 1–10 years and > 80 years (0.86% and 2.6 %). Out of 116 cases, 75 (64.6%) had definite history of chicken pox. The remaining 41 cases (35.3%) were not aware of past history of chicken pox.

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Age wise pt		percentage
1-10 Years	1	0.86
11-20 yrs.	18	16
21-30 yrs	27	23.3
31-40 yrs	24	20.7
41-50 yrs	20	17.2
51-60 yrs	13	11
61-70 yrs	8	7
70-80 yrs	2	2
>80 yrs	3	2.6

**TABLE 1**



**Pie Diagram showing sex ratio**

Thirty- two patients had one or more suspected provoking factors. Twelve patients were on steroids for ailments such as bronchial asthma, alopecia areata, pemphigus, lepra reactions, systemic lupus erythematosus. 11 patients were diabetic, 5 patients had various types of malignancies and were on chemotherapy/radiotherapy or on both, and 5 patients had pulmonary tuberculosis.

The average duration at presentation was 4.5 days. Majority of the cases (79 cases, 68.1 %) presented between 1- 5 days, followed by 21 cases (18.1%) between 6- 10 days and 16 cases (13.8%) between 11- 15 days.

Most common presenting complaint was pain in 92 (79.3%) patients. Most common type of pain was burning pain.

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The segment wise distribution of zoster is given in Thoracic dermatome was commonly (69,59.5%) affected and among thoracic, T4 segment was common, followed by the cervical(14,12.06%,Fig.1), trigeminal nerve (ophthalmic branch,fig.2) (12,10.3%), Lumbar dermatome (11, 9.5%),maxillary (0), and mandibular (2,1.7%). One case of facial nerve involvement with Ramsay hunt syndrome was present. 4 (3.4%) had sacral nerve involvement. 4 patients had more than one dermatome involvement.

Out of 116 patients 40 (34.5%) developed complications. The complications observed were secondary bacterial infection (16 cases, 13.8%), PHN (14cases, 12.06%), scarring (5 cases, 4.3%), motor weakness (Ramsay-hunt syndrome with facial weakness in 1 patient) hyper pigmentation (4 cases, 3.4%).



**Fig. 1: Big blisters in Herpes zoster of neck**



**Fig. 2: Herpes zoster Ophthalmicus**



**Fig. 3: Herpes zoster with dissemination**





**Fig. 4: Genital Herpes zoster**

**DISCUSSION:** In our 116 cases of herpes zoster not showing adults predominance, they are 48.2% below the age of 40 years and 51.7% above 40 years. Our study is not similar to Pavithran's and Sehgal et al.'s<sup>7,8</sup> studies, but similar to other reports<sup>9-11</sup>. Males predominance over females (1.57:1) in our study is similar to Ananthnarayana's study<sup>9</sup> but differing from Western studies<sup>11,12</sup> where both males and females ratio is equal. In India men go out to work and occupational trauma and stress along with greater chances of exposure may be the predisposing factor for the male preponderance.

Then focus on provocative factors, none has been found in majority (72.4) cases, remaining (27.6%) the commonest factor was history of steroid intake (12 cases) followed by other diseases like diabetes mellitus (11 cases), malignancy (5) and pulmonary tuberculosis(5). In all these cases we can find depressed cell mediated immunity<sup>13,14-16</sup> may be responsible for the development of zoster and for its extensiveness.

In most (94.6%) of previous reports,<sup>17-19</sup> patients presenting symptom was pain then vesiculations (94%); pain coinciding with the onset of the eruptions of vesicles were found in more than two third of total cases. Whereas our study shows that majority (87.5%) of the patients below the age of 20 years had neuralgic pain at the onset of the lesions; this is different to the previous studies. And 85% of the patients had strict dermatomal distribution, but 15% had vesicles beyond the dermatome. Except mild prolongation in resolution time, the course of illness was not different as compared to former studies even with this slightly altered morphology in the latter group with extradermatomal lesions.

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The dermatomal involvement was slightly different from earlier Indian studies.<sup>7,20</sup> Thoracic segment was common,<sup>14</sup> than cranial nerve involvement, unlike the previous studies where thoracic segment was followed by cervical and lumbar segments.

PHN was observed mainly in people above the age of 60 years. It was more in thoracic segments and differs from other reports seen in ophthalmic zoster.<sup>9,21</sup> Less occurrence of PHN in our study is probably due to onset in earlier age (below 50 years) in >70% of the cases.

Ramsay hunt syndrome in one patient which is rarely seen, found, further explained in our previous study with Geeta and co.<sup>22</sup>

**CONCLUSION:** The results of incidence and clinical pattern of herpes zoster is not parallel to the previous studies like 1) prodromal sign neuralgic pain more in below 20 years. 2) males more infected. 3) cranial nerve more involved 4) thoracic PHN more. This can be taken as further studies in future by others to explain causes in detail. As usual any factors of immunosuppression should be checked, especially HIV, particularly in disseminated and long-lasting cases.

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