

# REVIEW OF 500 CASES OF HERPES ZOSTER

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## SUMMARY

During a period of 15 months (July, 1988 to September 1989) 500 cases of herpes zoster were examined in the Dermatology outpatient department of Postgraduate Medical Institute, Peshawar. These cases were reviewed for age and sex incidence, side (right or left) and regional and dermatomal distribution of the eruption. This study showed that 60% of patients were above the age of 40. Frequency of infection increased until 60 years and then decreased. Overall male to female ratio was approximately 2:1 while in zoster ophthalmic this ratio approached 3:1. Eruption was slightly more common on the right side. Thoracic region was most commonly involved (296 cases) followed by trigeminal and cervical regions while lumbosacral region was the least involved. The overall results of this study are in accordance with those of others.

## INTRODUCTION

Herpes zoster is caused by the reactivation of Varicella zoster virus<sup>1,2</sup> while primary infection (varicella) occurs in childhood.<sup>3</sup> Although the exact incidence is difficult to ascertain,<sup>4</sup> the average incidence is about 2/1,000 per year.<sup>3</sup> Ragozzino et al<sup>5</sup> reported approximately 30,000 cases occurring per year in United States. The disease has been reported at almost any age.<sup>4,6</sup> It usually occurs in elderly<sup>7</sup> and more than 60% of patients are over the age of 45 years<sup>8</sup>. Hope-Simpson<sup>9</sup> reported a marked increase in annual incidence of herpes zoster between the fifth and sixth decades. Less than 10% of patients are younger than 20 years.<sup>4</sup> Hardings et al<sup>10</sup> found 90% of patients with zoster ophthalmicus to be above the age of 40 years.

Although the sex incidence is equal both for males and females,<sup>11,12</sup> Neugebauer<sup>13</sup> is of the opinion that the

disease is more common in females. Herpes ophthalmicus was found to be more common in females<sup>14,15,16,17</sup> but Harding et al<sup>10</sup> showed high incidence in males under the age of 60 while females predominated above the age of 60 years.

The rash of herpes zoster is typically unilateral<sup>4</sup> and occurs in a dermatomal fashion.<sup>2,4</sup> The thoracic dermatomes are most commonly involved (55%) followed by cervical (20%), trigeminal (15%) and lumbosacral (10%) dermatomes.<sup>1,2,4,8</sup> Disseminated zoster has been reported in a third of all patients with herpes zoster.<sup>18</sup> Murray<sup>3</sup> gives the figure of 1% in immunocompetent patients.

Post-herpetic neuralgia (PHN) is the most common complication.<sup>3,14,19</sup> Harding et al,<sup>10</sup> DeMorgas and Kierland<sup>16</sup> and Keczkas and Basheer<sup>20</sup> reported highest incidence of PHN in zoster ophthalmicus. It affects upto 10% of patients above the age of 40.<sup>19, 20</sup>

The purpose of this study is to assess the age and sex incidence, side (right or left) and regional and dermatomal distribution of the eruption.

## MATERIAL AND METHODS

During a period of 15 months (July, 1988 to September, 1989) 37,423 patients attended the dermatology outpatient of Postgraduate Medical Institute, Peshawar. During this period 500 cases of herpes zoster were examined. Acute cases as well as those with healed skin lesions were included in this study. These cases were evaluated for the age and sex incidence, side (right or left) and regional and dermatomal distribution of the eruption. Every effort was made to obtain the exact age of the patients but documentary proof was available in only a small number of patients.

Detail evaluation of these patients was not carried out but they were questioned and examined in detail for any complication. Presence of any underlying predisposing or any associated disease was also recorded.

## RESULTS

During a period of 15 months (July 1988 to September 1989) 37423 patients attended the dermatology outpatient department of the Post-graduate Medical Institute, Peshawar. Total number of patients suffering from herpes zoster was 500.

### Age Incidence

Table 1 shows the age distribution. 303 (60.60%) patients were above the age of 40, majority falling in 41-50 and 51-60 age groups. The incidence of patients below 20 years was 15.60% (78 cases). In zoster ophthalmicus 93% patients were above 45 years.

Table - 1

### AGE DISTRIBUTION OF 500 CASES OF HERPES ZOSTER.

| Age Group | Number of patients | %      |
|-----------|--------------------|--------|
| 00-10     | 27                 | 05.40% |
| 11-20     | 51                 | 10.20% |
| 21-30     | 54                 | 10.80% |
| 31-40     | 65                 | 13.00% |
| 41-50     | 105                | 21.00% |
| 51-60     | 109                | 21.80% |
| 61-70     | 59                 | 11.80% |
| 71-80     | 30                 | 06.00% |

### Sex Incidence

325 (65%) patients were males and 175 (35%) were females. In zoster ophthalmicus this ratio was 3:1.

### Site of Eruption

In 273 (54.80%) cases the eruption was on the right side of the body while in 226 (45.20%) cases it was on the left side. Only in one case bilateral eruption at T-10 level was found which resulted in acute paraplegia.

### Regional and Dermatomal Distribution

Table 2 shows the regional and dermatomal distribution of eruption. Thoracic region was involved in 296(59.20%) cases. In 18%(90 cases) trigeminal nerve area was involved. Ophthalmic division was involved in 73(14.60%) patients. Maxillary and mandibular divisions were each involved in 17 cases. Ocular involvement was found in 75.35% cases with zoster ophthalmicus. It manifested as pain, irritation, epiphora, lid edema, photophobia, keratitis and anterior

uveitis. Cervical region was involved in 80(16%) cases. 46 out of these involved 2nd, 3rd and 4th segments individually or in various combinations among each others or with other segments. Lumbar and sacral regions were involved in 47(9.40%) and 5(1%) cases respectively. 3(0.6%) patients presented with facial palsy with a few vesicles over the pinna. 20 cases showed involvement of 2 or 3 body regions. Only one case had generalised herpes zoster.

**Table - 2**

**REGIONAL DISTRIBUTION OF 500 CASES OF HERPES ZOSTER.**

| Body Region | Number of patients | %     |
|-------------|--------------------|-------|
| Trigeminal  | 90                 | 18.00 |
| Facial      | 03                 | 0.60  |
| Cervical    | 80                 | 16.00 |
| Thoracic    | 296                | 59.20 |
| Lumber      | 47                 | 09.40 |
| Sacral      | 05                 | 01.00 |

**Post-Herpetic Neuralgia**

This complication was seen in 53 (10.60%) cases. Thoracic region was the commonest associated with PHN(62.26% cases). In zoster ophthalmicus PHN was found in 22.64% patients. 45% of patients with PHN were above the age of 60 years.

**Other Features**

Table 3 shows diseases that caused immunosuppression. Five cases had neoplastic diseases and seventeen patients were receiving cytotoxic drugs and corticosteroids (including 5 cases with neoplastic disease). Table 4 shows the presence of associated diseases.

**DISCUSSION**

Although there is no available study regarding the incidence of herpes zoster in our country the disease was found in 1.33% of total patients attending the dermatology outpatient department of Postgraduate Medical Institute, Peshawar.

**Age Incidence**

The age incidence of herpes zoster which was 60.60% in this study is consistent with previous reports.<sup>8,9</sup> This study showed that the frequency of infection increases with age until 60 years and then decreases thereafter. The reason may be inability of older patients to report to hospital. The age incidence for patients below 20 years age was 15.6% which is higher than 10% reported earlier.<sup>4</sup> In zoster ophthalmicus the figure of 93% for patients above 45 years of age is almost equal to that of other.<sup>10,14,16,18</sup>

**Sex Incidence**

Contrary to earlier reports<sup>11,12</sup> this study reveals a male to female ratio of 2:1. One of the reasons may be that females usually attend local health center for majority of their ailment and for a variety of reasons cannot visit hospital. In zoster ophthalmicus this ratio is even higher i.e., 3:1 which is not in confirmatory to earlier reports.<sup>10,14,17</sup>

**Site of Eruption**

In this study right side of the body was involved a little more than the left side. A larger study is required to determine the frequency of site of involvement.

**Regional and Dermatomal Distribution**

Predominance of thoracic involvement 59.20% is consistent with earlier reports,<sup>2,4,8</sup> so is the trigeminal

involvement of 18%<sup>10,14,16</sup> The incidence of 14.60% for ophthalmic zoster is higher compared to 10% of Leisegong<sup>2</sup> but a little lower than reported by Burgoon.<sup>14</sup> Ocular involvement was very much higher

Table - 3

REASONS FOR IMMUNOSUPPRESSION.

|                  |   |
|------------------|---|
| Leukemia         | 2 cases                                     |
| Lymphoma         | 2 cases                                     |
| Multiple myeloma | 1 case                                      |
| Cytotoxic drugs  | 9 cases (including 5 cases with malignancy) |
| Corticosteroids  | 8 cases                                     |

(75.35%) compared to that of Harding et al.<sup>10</sup> Although the incidence of disseminated zoster is 1%<sup>3</sup> in this study only one case (0.2%) presented with generalized rash.

Post Herpetic - Neuralgia

The incidence of PHN (10.60%) is almost equal to that reported earlier.<sup>19,20</sup> Although this complication is common in trigeminal involvement i.e. 20%<sup>16,20</sup> in this study thoacic region was the commonest associated with this complication (62.26%). In zoster

Table - 4

DISEASES ASSOCIATED WITH HERPES ZOSTER.

|  |
|--|
| Cirrhosis of liver                     |
| Atopic eczema                          |
| Herpes simplex                         |
| Intestinal tuberculosis                |
| Lepromatous leprosy with renal failure |

ophthalmicus its incidence was 22.64% which is three times as reported by Marsh<sup>21</sup> and more than double as reported by Burgoon et al<sup>14</sup> but is equal to that of Harding et al.<sup>10</sup> The age incidence of PHN 45% above the age of 60 years is consistent with earlier reports.<sup>10,11,20</sup>

Other Features

The combined effect of malignant process and anti neo-plastic and corticosteroid therapy produces immuno-suppression. This predisposes to viral and other diseases.<sup>4,22</sup>

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