

## Original Research Article

# A study on clinical characteristics of herpes zoster in a tertiary care center

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## ABSTRACT

**Background:** Herpes zoster (HZ), also known as shingles, derived from the Latin word Cingulum, for “girdle”. This is because a common presentation of HZ involves a unilateral rash that can wrap around the waist or torso like a girdle. HZ results due to reactivation of an earlier latent infection with the varicella zoster virus (VZV) in dorsal root ganglia. It occurs at all age groups, common over 60 years of age. It is estimated that in non-immune populations, approximately 15 cases per 1000 people occur per year. The objective of the study was to study the clinical characteristics in patients with uncomplicated herpes zoster.

**Methods:** A total of 72 patients attending dermatology OPD at Ramaiah medical college between June 2013 to September 2014 were recruited after obtaining informed consent. A detailed history regarding onset of rash, pain, progression, duration and distribution of the lesions were recorded. Demographic information including age, sex, and any other co morbidities noted. Tzanck smear and serology for HIV was done where-ever necessary.

**Results:** Of the 72 patients, females outnumbered males [M=35(48.61%), F=37 (51.39%)] with male to female ratio of 0.9 to 1. The mean age of presentation was 58±18 years. Majority of the patients (54%) were in the age group of 51 to 70 years followed by 31-50 years (25%). Least number of cases (9%) was in the age group of 21 to 30 years. Of the 72 subjects, thoracic involvement was noted in 30.6%, followed by lumbar (22%), and trigeminal (16%). Cervical (4%) and sacral (2%) involvement was the least.

**Conclusions:** Herpes zoster commonly occurs in old age and the presenting symptom being pain and burning sensation. Thoracic dermatome is the commonest site. Immunocompromised states like diabetes, malignancy and HIV can increase the risk of developing herpes zoster.

**Keywords:** Herpes zoster, Dermatomal, Uncomplicated

## INTRODUCTION

Herpes zoster (HZ), also known as shingles, derived from the Latin word Cingulum, for “girdle”. This is because a common presentation of HZ involves a unilateral rash that can wrap around the waist or torso like a girdle. Similarly, the name zoster is derived from classical Greek, referring to a belt like binding (known as a zoster) used by warriors to secure armor.<sup>1</sup>

HZ results due to reactivation of an earlier latent infection with the varicella zoster virus (VZV) in dorsal root ganglia.<sup>2</sup> As reactivation of the virus is linked to diminished virus specific immunity, it develops mainly in the elderly and immunocompromised patients. It occurs at all age groups, common over 60 years of age.<sup>3</sup> It is estimated that in non-immune populations, approximately 15 cases per 1000 people occur per year. The incidence of herpes zoster is 20 to 100-fold higher in immune-

suppressed patients, compared with immunocompetent patients.<sup>4</sup>

Typically, HZ is accompanied with a rash and pain which runs its course in a matter of 4-5 weeks. Pain, however, may persist with months, even years, after the skin heals. This phenomenon is known as postherpetic neuralgia (PHN). Often described as an intense burning, itching sensation, this pain can be significant to the point of being debilitating, and as such can greatly affect quality of life. Although shingles is generally regarded as a self-limited condition, the fact it can take several weeks to resolve and has the potential for development of complications such as PHN presents a challenge to clinicians.<sup>5</sup>

The study was conducted with the aim to assess the clinical characteristics in patients with uncomplicated herpes zoster.

## METHODS

A total of 72 patients attending dermatology OPD at Ramaiah medical college between June 2013 to September 2014 were recruited after obtaining informed consent.

### Inclusion criteria

Patients with clinical diagnosis of uncomplicated herpes zoster in the age range of 18-75 years.

### Exclusion criteria

Patients with complicated herpes zoster like visceral involvement, severe disseminated infection (more than 20 lesions outside the primary affected dermatome), pregnant and lactating mothers.

### Parameters studied

A detailed history regarding onset of rash, pain, progression, duration and distribution of the lesions were recorded. Demographic information including age, sex, and any other co morbidities noted. Tzanck smear and serology for HIV was done where-ever necessary.

## RESULTS

Of the 72 patients, females outnumbered males [M=35(48.61%), F=37 (51.39%)] with male to female ratio of 0.9 to 1. The mean age of presentation was 58 ± 18 years. Majority of the patients (54%) were in the age group of 51 to 70 years followed by 31-50 years (25%). Least number of cases (9%) was in the age group of 21 to 30 years as shown in Table 1 and 2.

Around 21% of the patients had an associated co-morbid condition like diabetes mellitus. Hypertension (18.5%),

HIV (6.8%), cancer (13.5%) and concurrent diabetes mellitus and hypertension (6.6%) were the other co-morbid associations. A total 44% of patients presented within 48 hours of the appearance of the herpes zoster rash and the rest after 72 hours of the appearance of the rash.

**Table 1: Mean age and sex.**

Sex	Mean age (years)	N
M	55.7	35
F	60.2	37

**Table 2: Age distribution.**

Age	N
21-30	7
31-40	8
41-50	10
51-60	19
61-70	20

**Table 3: Disease characteristics at the time of presentation.**

Pain	N (%)
Pricking	54
Shooting	27.8
Burning	18.3

Almost all patients experienced pain. Pricking pain was the commonest presentation in more than 50% of patients followed by shooting pain (27.8%) and burning pain (18.3%) as shown in Table 3. Thirty percent of the patients had mild fever and the rest did not have any constitutional symptoms.

**Table 4: Arrangement of lesions.**

Eruption	N (%)
Grouped	79
Isolated	20.8

**Table 5: Dermatomal distribution.**

Dermatome	Total N (%)
Cervical	4 (5.6)
Thoracic	28 (38.9)
Lumbar	22 (30.6)
Sacral	2 (2.8)
Trigeminal	16 (22.2)
Total	72 (100.0)

All patients had erythema at the time of presentation. In majority (79%) the vesicles were arranged in grouped manner, isolated eruption was noted in 21% of patients as in Table 4.

Of the 72 subjects, thoracic involvement was noted in 30.6%, followed by lumbar (22%), and trigeminal (16%). Cervical (4%) and sacral (2%) involvement was the least as given in Table 5.

## DISCUSSION

In the present study, out of 72 patients with herpes zoster, majority were in the age group of 51 to 70 years. However a study by Degreef et al showed a majority in the age group of 51-60 years.<sup>6</sup> The mean age of onset of herpes zoster in our study was 58 years. A study conducted by Shafran et al showed the mean age of the study population to be 55 years.<sup>7</sup> The important role of age as a risk factor for zoster is presumably related to a loss of components of VZV-specific CMI response because of aging possibly combined with waning immunity that might occur over time following initial varicella infection. Loss of specific immunity allows VZV to complete the process of reactivation and spread to the epidermis to produce the fully expressed clinical illness.<sup>8</sup>

We have encountered diabetes mellitus in 21% and hypertension in 18.5% as co-morbidity. Two studies have documented an association between zoster and diabetes mellitus.<sup>9</sup> However association of hypertension and HZ has not been documented earlier in any study. In the present study 6.8% of patients were HIV positive and 13.6% of patients had malignancy. Patients with immunocompromised state with conditions like cancer and HIV have been more likely to develop herpes zoster due to declining immunity.<sup>8</sup> This result is similar to the study by Yawn et al whose finding suggested that about 8% of zoster episodes occur in immunocompromised patients.<sup>10</sup>

In the present study all of them had erythema, pain and vesicles at the time of presentation. In a study conducted by Sehgal et al, the main presenting symptom was pain (95%) and skin eruption (91%).<sup>11</sup> Dubey et al in their study of 107 cases observed pain as the main presenting symptom 97 (90%).<sup>12</sup> In a study conducted by Tyring et al more than 90% of the trial population had significant acute pain at presentation.<sup>13</sup> Our patients experienced pricking pain (54%), followed by shooting (27.8%) and burning pain (18.3%).

Thoracic segment was the predominant site of involvement (38.9%) in our study as shown in Figure 1, followed by lumbar (22%) as given in Figure 2, trigeminal (16%) as in Figure 3, cervical (4%) and sacral (2%) segments. Sehgal et al in their study noted involvement of thoracic segment in 52.5% of cases followed by cervical in 20%, lumbosacral (18.8%) and cranial involvement (8.8%).<sup>11</sup> Dubey et al, also noted in their study, the involvement of thoracic segment in 59.8% followed by cervical (15.8%), cranial (14.9%) and lumbosacral (13%) in concordance with our results.<sup>12</sup>



**Figure 1: Involvement of right thoracic segment.**



**Figure 2: Involvement of left lumbar segment.**



**Figure 3: Involvement of left trigeminal segment.**

## CONCLUSION

Herpes zoster commonly occurs in old age and the presenting symptom being pain and burning sensation. Thoracic dermatome is the commonest site. Immunocompromised states like diabetes, malignancy and HIV can increase the risk of developing herpes zoster.

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