

CLINICAL STUDY OF HERPES ZOSTERLingaraj M. M¹**HOW TO CITE THIS ARTICLE:**

Lingaraj M. M. "Clinical Study of Herpes Zoster". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 72, September 07; Page: 12485-12492, DOI: 10.14260/jemds/2015/1798

ABSTRACT: OBJECTIVES: 1. To find out the incidence of Herpes zoster in patients attending the dermatology and venereology clinic. 2. To determine the distribution of herpes zoster in relation to age, sex, religion, season, socio-economic status and rural urban background. 3. To study the various clinical features like site of occurrence, initial presentation and course of the disease. **MATERIALS AND METHODS:** A total of 100 patients of herpes zoster attending outpatient Department of Dermatology and Venereology were included in the study. Detailed history, thorough physical examination and relevant investigations were done. **RESULTS:** No seasonal variation was found. Out of the 100 patients of herpes zoster majority of the patients belonged to the age group 21-40 years (42%). The male to female ratio was 1.8:1. Most of the patients were from low socio-economic group. 65 patients were literate and 35 patients were illiterate. Prodromal symptoms occurred in 61% of patients. Post-herpetic neuralgia was common in elderly and immunosuppressed patients. Commonest segment involved was the thoracic segment (46%). Majority of patients had single dermatomal involvement (87%). Multidermatomal involvement was seen in 13 patients (13%), out of which majority had immunosuppression like HIV and Diabetes Mellitus.

KEYWORDS: Herpes Zoster; PHN; Dermatomal.

INTRODUCTION: 'Herpes zoster' is a localized disease characterized by unilateral radicular pain and a vesicular eruption that is generally limited to the dermatome innervated by a single spinal or cranial sensory ganglion.¹ the words "Herpes Zoster" are derived from Greek "Herpes" - Meaning to creep or to spread and 'Zoster' meaning 'Girdle' or 'Zone'.²

Herpes Zoster is characterized by a prodromal stage characterized by fever, headache, burning pain, followed by an acute stage, with appearance of crops of vesicles on an erythematous base in a dermatomal pattern and an intractable neuropathic pain in chronic stage. Herpes Zoster is a common infection among the elderly. Chicken pox and herpes zoster (Shingles) are usually benign but are associated with morbidity and mortality especially in immuno compromised hosts. The distinction between the natural history and manifestation of these clinical syndromes caused by VZV is essential for understanding the potential value of antiviral therapy.

Herpes zoster usually involves one or more dermatomes and occurs at one particular site.³ many complications like cutaneous, visceral, ocular and neurologic can occur. Post herpetic neuralgia (PHN) is the most feared and debilitating complication of zoster. The risk for PHN is increased in patients over 60 years of age. Recurrent herpes zoster is listed as one of the AIDS defining illness. In HIV infected there are many atypical manifestations like ulceration, necrosis, ecthymatic lesions, hyperkeratotic papules and many neurological, cutaneous, ophthalmic complications.

The thoracic dermatomes are the most commonly affected (56%) followed by cervical (17%), lumbar (10%), sacral (5%) and the trigeminal nerve was infected in 12%.⁴ the management of PHN remains a challenge, with various modalities of treatment having a modest success.

Laboratory studies for herpes zoster includes, serological tests, PCR, Tzanck smear, biopsy and viral tissue culture. The drugs used for the treatment of herpes zoster are Acyclovir, Valacyclovir and Famciclovir, Desiclovir, Penciclovir and Foscarnet.

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A live attenuated VZV vaccine introduced in 2005 has demonstrated a reduction in the incidence rate of herpes zoster. It is approved for use in patients 50 years of age and older. Varicella zoster immune globulin is used to prevent or modify clinical illness in susceptible person who are exposed to zoster.

AIM OF THE STUDY:

- To find out the incidence of Herpes zoster in patients attending the dermatology and venereology clinic.
- To determine the distribution of herpes zoster in relation to age, sex, religion, season, socio-economic status and rural urban background.
- To study the various clinical features like site of occurrence, initial presentation and course of the disease.

MATERIALS AND METHODS: This is a hospital based descriptive study. The study material consists of 100 patients of herpes zoster attending the outpatient Department of Dermatology, Venereology, Bapuji Hospital and District Chigateri General Hospital, attached to J.J.M. Medical College, Davangere during the period extending from September 2011 to August 2013.

The newly diagnosed cases of herpes zoster especially those presenting with skin eruption, pain and constitutional symptoms within 4 weeks of onset are included in the study. The cases presenting after 4 weeks, in whom the skin eruptions have fully healed and cases of post herpetic neuralgia are excluded from this study.

OBSERVATIONS AND DISCUSSION: For this clinical and epidemiological study of herpes zoster a total of 100 cases were randomly selected from outpatient Department of Dermatology and Venereology at Bapuji Hospital and District Chigateri General Hospital, attached to J.J.M. Medical College, Davangere during the period from September 2011 to August 2013. All the 100 cases were studied and their varied clinical and epidemiological features were noted and investigated.

Incidence: Out of 34,375 outpatients 148 herpes zoster patients were recorded during Sept 2011 to Aug 2012 with incidence of 0.43% and out of 35,040 outpatients 173 herpes zoster patients were recorded during September 2012 to August 2013 with incidence of 0.49%, and an overall incidence of 0.46% in 2 years. In the present study the incidence of herpes zoster was found to be 0.46% during the study period (2 years). Chaudhary et al⁵, in their study of 230 patients observed 0.6% incidence.

Thus the results are almost in concurrence with the above study.

Month	No. of Cases	Percentage
October	6	6
November	10	10
December	6	6
January	4	4
February	4	4
March	7	7
April	8	8
May	11	11

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June	9	9
July	11	11
August	8	8
September	9	9
October	7	7

Table 1: Month Wise Distribution

In the present study there was no significant association of the disease with season. This is in conformity with the study of Sehgal et al.⁶ which showed no seasonal variation. Ragozzino et al,⁷ contend that there is no clear evidence of seasonal trends in the incidence of zoster. Chaudhary et al,⁵ in their study found increased incidence in the month of August, September and October.

Age in Years	No. of Cases	Percentage
0-10	4	4
11-20	10	10
21-30	20	20
31-40	22	22
41-50	15	15
51-60	13	13
> 61	16	16
Total	100	100

Table 2: Age Distribution

In the present study majority of the patients i.e., 42(42%) were in the 3rd and 4th decades. This is in conformity with the study of Sehgal et al who also observed the majority of cases in their study of 90 patients to be in 3rd and 4th decades.

However Chaudhary et al,⁵ observed majority of patients (54%) in their study of 230 cases to be in 2nd and 3rd decades. Mathur et al,⁸ noted 59% of the patients in the similar age group and Nigam et al,⁹ in 2nd and 3rd and 4th decades. Rogozzino et al.⁷ in their study found less number of patients in 0-14 age group and maximum among individual 75 years or older.

The youngest case reported in our study was 8 years old. The youngest reported in literature is a 3 months old infant. The oldest age reported in our study was 79 years. The oldest patient reported which reported by Sehgal et al is 82 years old.⁶

Sex	No. of Cases	Percentage
Male	65	65
Female	35	35
Total	100	100

Table 3: Sex Wise Distribution

In the present study 65 patients (65%) were males and 35 patients (35%) were females. This is almost in concurrence with the study of Sehgal et al who found the disease in 68.7% males and 31.3% females.⁶ in the study of Nigam et al there were 69.8% males and 30.2% females.⁹

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Religion	No. of Cases	Percentage
Hindus	89	89
Muslims	10	10
Christians	1	1
Total	100	100

Table 4: Religions

Majority 89 patients (89%) were Hindus, 10 patients (10%) were Muslims and only 1 patient (1%) was Christian.

Socio-Economic Status	No. of Cases	Percentage
Low income	60	60
Middle income	34	34
High income	6	6
Total	100	100

Table 5: Socio-Economic Status

Majority of patients of herpes zoster belonged to low income group (60%), followed by middle income (34%) and least belonged to the high income group i.e., 6 patients (6%).

Place of Residence	No. of Cases	Percentage
Urban	58	58
Rural	42	42
Total	100	100

Table 6: Place of Residence

Majority 58 patients (58%) came from an urban background compared to 42 patients (42%) from a rural background.

Prodromal Symptoms	No. of Cases	Percentage
Present	61	61
Absent	39	39
Total	100	100

Table 7: Prodromal Symptoms

In present study of 100 patients, 61 patients had prodromal symptoms like paraesthesia, pain, itching and malaise. Nigam et al, in their study noted prodromal symptoms in more than 90% of patients and the symptoms included pyrexia, pain, paraesthesia and hyperesthesia.⁹ Cheo-Leok Goh et al.¹⁰ noted pain in 41%; itching in 27% and paraesthesia in 12% in their study. Thus the incidence of prodromal symptoms can be variable.

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Symptoms and Signs	No. of Cases	Percentage
Eruption	100	100
Pain	82	82
Burning sensation	63	63
Fever	23	23
Headache	19	19
Regional lymphadenopathy	42	42

Table 8: Symptoms and Signs

All patients in the study group had some form of eruption viz., papule, vesicle, pustule, crust (100%). 82 patients had pain (82%) 63 had burning sensation (63%), fever occurred in 23 patients (23%).

Lesions	No. of Cases	Percentage
Erythematous papules	79	79
Vesicles	89	89
Pustules	16	16
Crusts	25	25
Dyspigmentation	05	05
Ulcer	-	-

Table 9: Cutaneous Examination

Out of the total number of 100 patients 89% of the patients had grouped vesicles, 79% had grouped papules and vesicles which were present in dermatomal distribution. This is in conformity with the study of Chaudhary et al,⁵ who also noted the majority of the patients with erythematous papules and vesicles. Similar observation were also made by Sehgal et al.⁶ who found vesicles and papules in 87.5% of patients.

Dermatomes Involved	No. of Cases	Percentage
2 dermatomes	9	69
3 dermatomes	4	31

Table 10: Multiple Dermatomal Involvement

Involvement of 2 dermatomes was seen in 9 patients (69%) and 4 patients had involvement of 3 dermatomes (31%).

The present study shows that 46 patients had thoracic segment involvement (46%), followed by cranial (20%), cervical (15%), lumbar (15%) and sacral (4%) involvement.

The study of Sehgal et al.⁶ showed involvement of thoracic segment in 52.5% of the patients, followed by cervical in 20% lumbosacral in 18.8% and cranial in 8.8%. The study of Chaudhary et al.⁵ had thoracic segment involvement in 55.2%, cervical in 19.5% cranial in 11.3 and lumbosacral in 13.9%. Thus the results of the present study are almost in concurrence with the other studies.

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Complications	No. of Cases	Percentage
Secondary infection	15	15
Dyspigmentation	11	11
Postherpetic neuralgia	10	10
Dissemination	-	-

Table 11: Complications

Among the complications 15 patients had secondary infection (15%), dyspigmentation was seen in 11 patients (11%), post herpetic neuralgia was a complication in 10 patients (10%). Sehgal et al.⁶ observed secondary infection in only 4.4% and Chaudhary et al.⁵ observed secondary infection in 2.2%. This can be explained by the fact that many patients who had secondary infection resorted to native topical medications which are well known to produce secondary infection. This was more so among the illiterate patients. Post herpetic neuralgia was a complication in 10 patients (10%).

Diseases	No. of Cases	Percentage
Diabetes mellitus	10	10
Pulmonary koch's	-	-

Table 12: Associated Systemic Diseases

Out of the 100 patients diabetes mellitus was found in 10 patients (10%). There were no patients who had internal malignancy. Thus diabetes mellitus was the commonest systemic association with herpes zoster in the present study.

CONCLUSION: The following conclusions can be drawn from the present study. The incidence of herpes zoster was found to be 0.46%:

- The incidence of herpes zoster did not show any seasonal variation.
- Highest incidence of the disease was seen in the 4th decade of life.
- There was a male preponderance.
- Hindus constituted to more number of patients because this place and places around are more inhabited by that religion.
- Highest number of patients belonged to low income group as these hospitals are attended by these people as free service is rendered.
- Urban people and literates were more because there is a tendency for going in for native medications among illiterates and rural patients.
- Almost about 2/3rd of patients had prodromal symptoms whereas most of the patients presented with classical lesions.
- As in many other studies thoracic segment was the most commonly involved area.
- Unidermatomal involvement was seen in most of the immunocompetent patients whereas multidermatomal involvement was seen more in patients who had HIV infection and diabetes mellitus.
- Diabetes mellitus was the only systemic disease seen. The incidence of HIV positivity was 15% among those who are tested for HIV.

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- Nearly 1/5th of patients gave history of chicken pox in the past as many patients did not remember to have had chicken pox or probably in those chicken pox was very mild as it is so when it occurs in the 1st decade of life.
- Tzanck smear showed positivity in nearly half the patients.

So the above all observations indicate that Herpes zoster is a common disease, which can occur in all seasons, occurring more often in the middle age, in all classes irrespective of the socio-economic status. It can involve any of the dermatomes. It is more common in patients of diabetes and can also be a clinical sign to suspect HIV infection in certain patients especially those who present with multidermatomal involvement.



Fig. 1: Zoster Involving Left T3 and T4 Dermatomes



Fig. 2: Zoster Involving L2, L3 Dermatomes



Fig. 3: Zoster Involving The Right T4 Dermatomes



Fig. 4: Zoster Involving T8, T9 Dermatomes

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FINANCIAL OR OTHER**COMPETING INTERESTS:** None**NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:**

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Date of Submission: 20/08/2015.
Date of Peer Review: 21/08/2015.
Date of Acceptance: 02/09/2015.
Date of Publishing: 04/09/2015.