Journal of Pakistan Association of Dermatologists. 2016;**26 (2)**:134-137.

Original Article

A study on clinical presentation of herpes zoster in a district hospital in North India

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Abstract

ObjectveTo study the clinical manifestations of patients of herpes zoster.

MethodsFifty patients suffering from herpes zoster were enrolled inthe study. Their demographic data, clinical features, dermatomes involved were recorded.

ResultsPain, paresthesiaand insomnia were noted in 90%, 50% and 20% patients, respectively. PHN was seen in 80% patients with age more than 50 years. 4 (8%) patients were positive for HIV. Thoracic dermatome were the commonest dermatome involved in 40% patients followed by trigeminal nerve in 36%, lumbar dermatomes in 16%, cervical dermatomes in 8% andcervicothoracic and thoracolumbar dermatomes in 4% patients each.

ConclusionPatient education and counselling is very important, so that the patients can identify early eruptions and prodromal signs and symptoms and timely antiviral therapy can be instituted.

Keywords
Herpes zoster, dermatome, virus, ganglion, nerve, pain**.**

Introduction

Herpes zoster (HZ) is commonly referred to as shingles. It results from reactivation of latent varicella-zoster virus in sensory dorsal root or cranial nerve ganglia, and usually manifests as a painful vesicular rash along a dermatomal distribution.[1,2] HZ usually begins with a prodrome, such as pain, itching or tingling in the area that becomes affected. This may precede the characteristic rash by days or even weeks but is rarely the only clinical manifestation of varicella-zoster virus reactivation. Typically, patients experience headache, malaise and sometimes photophobia. Abnormal sensation or pain, often described as burning, throbbing or stabbing, occurs in approximately 75% of patients and may be the first noticeable feature.[3,4] Often pruritus in the affected region is the most prominent feature. Allodynia, or pain induced by light touch, may also be described. Before the onset of the rash and depending on the location, symptoms may mimic pain caused by ischemic heart disease, cholecystitis or renal colic. The rash is usually unilateral and may affect adjacent dermatomes, with thoracic, cervical and ophthalmic involvement being the most common. Morphologically it evolves from a maculopapular rash to one comprising clusters of vesicles that ulcerate and crust over the course of 7-10 days. Healing is usually complete by 2-4 weeks. When all lesions have crusted the rash is considered non-infectious. Residual scarring and pigmentation is common.[5-8]

This study was conducted to document the clinical manifestations and any complications especially postherpetic neuralgia in patients of HZ.

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Methods

Fifty patients suffering from HZ were selected for the study. Prior permission of hospital ethical committee was taken for the study. Written informed consent was taken from all the patients before the start of the study.A detailed history was taken for patients demographic data, prodromal signs and symptoms, risk factors, location of lesions, associated systemic disease and complications. A complete dermatological examination was done in all the patients to see the morphology of lesions and the dermatome involved.Routine investigations along with liver and kidney function tests were done in all the patients. HIV screening was done in all the patients.Tzanck smear was done in doubtful cases.

The data was collected, tabulated and the results were analyzed statistically.

Results

There were 36 males and 14 females and male: female was 2.6:1.Regarding the age distribution of patients, it was seen that maximum (50%) patients were between 41-60 years of age, 30% patients were between 21-40 years of age, 10% patients were between 0-20 years of age and another 10% patients were more than 60 years of age (**Table 1**).

Majority of the patients i.e. 42 (84%) had involvement of single dermatome whereas 8 (16%) patients had multidermatomal involvement. **Table 2** shows the frequency of involvement of different dermatomes involved by the disease. It was seen that the thoracic dermatome (**Figure1**) was the commonest dermatome involved in 20 (40%) patients followed by trigeminal nerve segment in 18 (36%) patients and lumbar segment (**Figure2**)

Table 1 Age distribution of patients (n=50).

Age distribution (years)	*N (%)*
0 – 20	5 (10)
21- 40	15 (30)
41 – 60	25 (50)
>60	5 (10)

Table 2 Dermatomal involvement of herpes zoster

Segment involved	*N (%)*
Thoracic	20 (40)
Trigeminal nerve area	12 (24)
Lumbar	8 (16)
Cervical	4 (8)
Sacral	2 (4)
Thoracolumbar	2 (4)
Cervicothoracic	2 (4)

Table 3 Clinical features and complications of herpes zoster in study population (n=50).

Clinical features and complications	*N (%)*
Pain	45 (90)
Paresthesia	25 (50)
Itching	12 (24)
Insomnia	10 (20)
Ramsay-Hunt syndrome	8 (16)
Fever	5 (10)
Ulceration/necrosis	5 (10)
Secondary infection	5 (10)
Disseminated herpes zoster	3 (6)

involved in 8 (16%) patients. Sacral area was the least affected involved in only 2 (4%) patients.

Pain and paresthesia were the predominant symptoms seen in 45 (90%) and 25 (50%) patients, respectively (**Table 3**). Ten (20%) patients reported insomnia due to disease. Postherpetic neuralgia was seen in 40 (80%) patients with age more than 50 years.Less frequent presentations were Ramsay-Hunt syndrome (16%) and disseminated disease (6%). HIV positivity was seen in 4 (8%) patients.

Discussion

In HZ, immune status of the host plays a role.Patients that are treated with immunosuppressive drugs have a significantly increased risk for HZ. An immunocompromised

patient is more likely to have a prolonged illness, more likely to recur, and more likely to develop myelitis and vasculopathy.The risk of HZ is 15 times greater in men with HIV than in men without HIV.[9,10,11]The virus reactivates from its dormant state in the sensory ganglion, replicates in the nerve cells, and sheds virions from the cells that are carried down the axons to the skin served by that ganglion. The local immune response results in skin blisters or ocular inflammation depending on which tissues are affected. Perineuritis causes intense pain along the nerve distribution. Aging, immunosuppression therapy, and psychological stress all could be factors resulting in reactivation of the virus.

Postherpetic neuralgia is considered the most common complication and increases with age, affecting up to 30% of people with herpes zoster over the age of 80 years.[12,13,14] It is generally defined as pain of at least moderate intensity persisting for three months or longer, although various definitions (and measures of pain severity) have been used in drug trials. It may occasionally last for years. Postherpetic neuralgia is characterized by constant or intermittent, usually severe, burning or lancinating pain that occurs almost daily. Allodynia is present in most cases and can make even wearing clothing an arduous task. Quality of life is invariably reduced. Features that appear to be predictive for the development of postherpetic neuralgia include more severe initial pain, more extensive rash and age over 50 years.

Ocular involvement in herpes zoster also called as herpes zoster ophthalmicus occurs in 10-25% of cases.[15,16] This involves the ophthalmic branch of the trigeminal nerve and results in a disproportionately high complication rate (50% in the absence of antiviral drugs) with the eye affected in several possible ways.[17] Less common manifestations of zoster include the Ramsay-Hunt syndrome (involvement of the geniculate ganglion of the facial nerve) which manifests as vesicles in the external auditory canal and palate associated with loss of taste to the anterior two-thirds of the tongue and facial weakness. Most individuals with herpes zoster will have some lesions outside the primary dermatome. Disseminated zoster is defined as 20 lesions or more outside the involved dermatome.[18]It tends to occur only in immunocompromised patients and may be associated with visceral involvement (lungs, liver, gut and brain).[19]

Regarding the symptomatology, dermatomal involvement and complications, results of our study are in accordance with many previous studies with subtle differences. In a study by Goh and Khoo,[20] dermatomes most commonly involved were thoracic in 45% and cervical in 23%. Ophthalmic zoster was seen only in 3% cases.In another study conducted by Dubey*et al*.[21] the most common prodromal symptom seen was paresthesia in 25 (23.36%) cases followed by itching in 21 (19.62%) cases.Most common presenting complaint was pain in 97 (90.65%) cases. Thoracic dermatome was involved in 64 (54.81%) cases, followed by cervical in 17 (15.8%) cases. Unidermatomal involvement was seen in 81 (75.7%) cases, followed by multidermatomal in 18 (16.8%) cases and disseminated in 8 (7.4%) cases.

In another study conducted by Abdel Latheef andPavithran[22]thoracic dermatome was commonly affected and among thoracic, T4 segment was common, followed by the trigeminal nerve (ophthalmic branch, maxillary, and mandibular).Two cases of facial nerve involvement with Ramsay-Hunt syndrome were present. Twenty-five patients had cervical, 16 lumbar, and 10 had sacral nerve involvement. Nine patients had more than one dermatome

involvement. Twenty-seven cases had aberrant vesicles ranging from 2-16 in distant areas.

Conclusion

Patient education and counselling is very important, so that the patients can identify early eruptions and prodromal signs and symptoms and timely antiviral therapy can be instituted. Early management with antivirals and analgesia is important and may reduce the incidence of postherpetic neuralgia.

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