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Original Research Article

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

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Abstract: Herpes zoster is an acute, painful, vesicular eruption distributed along a single dermatome and is associated with a prodrome of fever, malaise, headache, and pain in the dermatome. The vesicles typically crust and will heal within 2-6 weeks. The main aim is to study the clinical manifestations of patients of herpes zoster. In this the method was fifty patients suffering from herpes zoster were selected for the study. It was a randomized controlled prospective study. In results the Pain was seen in 90% patients, parasthesias were seen in 50% patients, insomnioa was seen in 20% patients, was seen in 90% patients was seen in 90% patients. PHN was seen in 80% patients with age more than 50 years. HIV positivity was seen in 4 (8%) patients. Regarding the dermatomal involvement it was seen that the thoracic dermatome was the commonest dermatome involved in 40% patients followed by trigeminal nerve segment in 36% patients, lumbar segment was involved in 16% patients, cervical dermatome was involved in 8% patients, was involved in 16% patients, cervicothoracic and thoracolumbar dermatomes were involved in 4% patients each. In conclusion the 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.
Keywords: Herpes zoster**;** dermatome; virus; ganglion; nerve; pain

INTRODUCTION

Herpes zoster 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]. Herpes zoster 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 ischaemic 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].

AIMS

- To study the clinical manifestations of patients of herpes zoster.
- To see for any complications of herpes zoster especially post herpetic neuralgia.

MATERIAL AND METHODS

Fifty patients suffering from herpes zoster were selected for the study. It was a randomized controlled prospective 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. The study was undertaken to see the clinical profile of patients of herpes zoster. A detailed history including patient's age and prodromal signs and symptoms were noted Patient's demographic data, symptoms, location of lesions, risk factors, associated systemic disease and complications were noted in a proforma. 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.

Fig-1: Ophthalmic herpes zoster in a 66 years old male

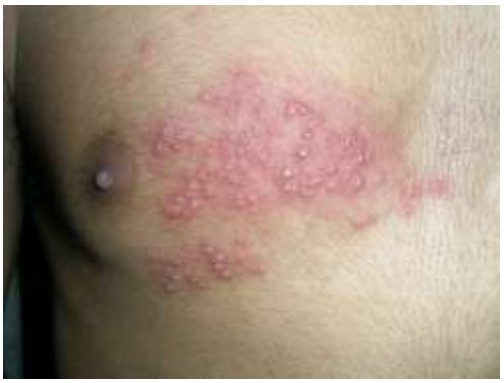

Fig 2 - Herpes zoster in a 30 years old male with thoracic dermatomal involvement

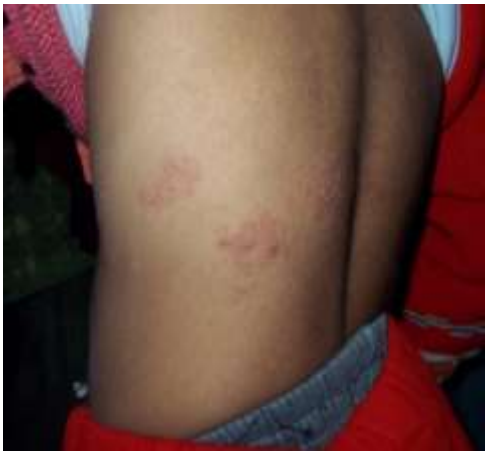

Fig-3:Herpes zoster in a 13 years old male child with involvement of lumbar segment

RESULTS

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

Table I: showing age distribution of patients

Sr No	Age Distribution	Number	Percentage
1	0 - 20	5	10%
2	21- 40	15	30%
3	41 - 60	25	50%
4	> 60	5	10%
5	TOTAL	50	100%

Table 2: Showing Dermatomal Involvement of Herpes Zoster

Sr No	Segment Involved	Number	Percentage
1	Thoracic	20	40%
2	Lumbar	8	16%
3	Trigeminal nerve area	12	36%
4	Sacral	2	4%
5	Cervical	4	8%
6	Thoracolumbar	2	4%
7	Cervicothoracic	2	4%

Table 3: showing clinical features and complications of herpes zoster

Sr No	Clinical Features and Complications	Number	Percentage
1	Pain	45	90 %
2	Fever	5	10%
3	Itching	12	24%
4	Paraesthesia	25	50%
5	Ulceration/Necrosis	5	10%
6	Insomnia	10	20%
7	Secondary infection	5	10%
8	Disseminated herpes zoster	3	6%
9	Ramsay hunt syndrome	8	16%

DISCUSSION

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. There were 36 males and 14 females and male: female was 2.57:1. Out of 50 patients [8]. (16%) patients had multidermatomal involvement. It was seen that post herpetic neuralgia (PHN) was seen mostly in older patients (Fig 1). PHN was seen in 80% patients with age more than 50 years. HIV positivity was seen in 4 (8%) patients. Regarding the dermatomal involvement it was seen that the thoracic dermatome (Fig 2) was the commonest dermatome involved in 40%

patients followed by trigeminal nerve segment in 36% patients, lumbar segment (Fig 3) was involved in 16% patients, cervical dermatome was involved in 8% patients, was involved in 16% patients, cervicothoracic and thoracolumbar dermatomes were involved in 4% patients each. Pain was seen in 90% patients, parasthesias were seen in 50% patients, insomnia was seen in 20% patients, was seen in 90% patients was seen in 90% patients.

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 [6, 7]. 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. 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 [8]. When all lesions have crusted the rash is considered non-infectious. Residual scarring and pigmentation is common [8]. Immune system status plays a role; patients that are treated with immunosuppressive drugs have a significantly increased risk for herpes zoster. 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 herpes zoster 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, immunosupression therapy, and psychological stress all could be factors resulting in reactivation of the virus.

Post herpetic 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. Post herpetic neuralgia is characterised 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 post herpetic neuralgia include more severe initial pain, more extensive rash and age over 50 years.

Ocular involvement in herpes zoster also called as herpes zoster ophthalmic us 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].

In a study by Goh and Khoo, dermatomes most commonly involved were thoracic in 45% and cervical in 23% [20]. Ophthalmic zoster was seen only in 3% cases. Unidermatomal, but may be multidermatomal, recurrent or disseminated. In another study conducted by Dubey *et al.;* the most common prodromal symptom seen was paresthesia in 25 (23.36%) cases followed by itching in [21] (19.62%) cases [21]. Most common presenting complaint was pain in 97 (90.65%) cases followed by cervical in 17 (15.8%) cases. Uni dermatomal 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 Latheef et al, thoracic dermatome was commonly affected and among thoracic, T4 segment was common, followed by the Trigeminal nerve [ophthalmic branch, maxillary, and mandibular] [22]. 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.

CONCLUSIONS

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 post herpetic neuralgia.

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