

Herpes Zoster: A Case Report

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Abstract: *The varicella zoster virus (VZV) which is distributed world-wide, is a neurodermotropic virus that remains dormant in the sensory ganglion and on reactivation causes Herpes zoster (HZ). The condition is characterised by the occurrence of multiple, painful, unilateral vesicles, ulceration and shows a typical single dermatome innervated by single dorsal root or cranial sensory ganglion. Involvement of three or more dermatomes is known as disseminated zoster and is seen in immunocompromised individuals. Incidence of HZ increases with age and immunosuppression. Therefore prompt management is necessary to avoid morbidity and mortality in these individuals. Here in we report a case of Herpes zoster involving maxillary and mandibular branches of trigeminal nerve.*

Keywords: Varicella zoster virus, Herpes zoster, Post herpetic neuralgia, Trigeminal nerve.

1. Introduction

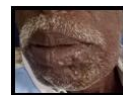
Herpes zoster [HZ] also called as ‘shingles’ is derived from Greek word; ‘herpes’ means to creep and ‘zoster’ means girdle/belt. Von Bokayin, in 1988, hypothesised for the first time that chicken pox and HZ were caused by the same infectious agent and later William Heberden differentiated chicken-pox from smallpox, stressing how the former, a mild and unimportant disease, should be distinguished from the latter¹. It results from reactivation of latent varicella zoster virus in sensory dorsal root or cranial nerve ganglia along dermatological distribution. The reactivation may occur due to suppressed immunity and usually appears unilaterally in the distribution of one or more adjacent sensory nerves accompanied by neuropathic pain in the affected dermatome with pruritic, localized, vesicular rashes with post-herpetic neuralgia as the most common complication².

2. Case Report



A 60 year old male reported to the Department of Oral Medicine and Radiology, SVS Institute of Dental Sciences; with a chief complaint of blisters on left side of face. Patient was apparently asymptomatic 5 days back later he

developed pain in the upper left back tooth region for which he underwent extraction followed by medications. Two days later he noticed bubble like growth associated with severe, throbbing, continuous pain due to which he was unable to take food.



Medical and family history were not contributory. Extra oral examination revealed multiple vesicles of size less than 1cm on the left middle and lower 3rd of the face involving preauricular and auricular region; which abruptly ended at the midline. The skin over the vesicles was similar to surrounding skin with irregular surface and were severely tender on palpation. On intraoral examination poor oral hygiene was noticed with unilateral multiple crops of coalescing vesicles and ulcers that varied in size from 1-2 cm in diameter on the left half of the lower lip, upper and lower labial mucosa, buccal mucosa, retromolar area, floor of the mouth as well as dorsal and ventral surface of left half of the tongue. The ulcers were irregular in shape; covered with pseudomembranous slough and were tender on palpation.



Based on history and clinical presentation a diagnosis of ‘Herpes zoster involving maxillary and mandibular branch of left trigeminal nerve’ was given with differential diagnosis of herpetic gingivostomatitis, erythema

multiforme, Ramsay Hunt syndrome and pemphigoid. Immediately the patient was treated with Tab acyclovir 800 mg, q.i.d; Tab ketrol DT b.d and Chlorhexidine

mouthwash for 7 days along with bland diet, adequate hydration and supportive therapy.

Outcome and Follow-Up –After a week, extra oral lesions were partially healed and was appreciated with the formation of dry scabs and intraoral lesions showed erythematous regions with coalescing vesicles and ulcers. Patient was advised to continue acyclovir for 5 more days. On further follow up medications were discontinued and satisfactory healing was seen with no complications.

3. Discussion

HZ caused by primary varicella zoster virus (VZV) typically erupts within one or two adjacent dermatomes, with

thoracic (50–60%), cervical (10–20%) and trigeminal (10–20%) being more commonly involved, while lumbar (5–10%) and sacral (5%) are otherwise commonly involved dermatomes. The pathogenesis behind the reactivation is unknown, but any factor affecting the cell-mediated immunity may play a role in the reactivation. The predisposing factors for reactivation may include increasing age, stress, and wide range of debilitating diseases, positive family history and immunosuppressive drugs³.



HZ is a significant global health burden with its incidence in the general population to be 5.4% and up to 15 times higher in HIV-infected; 25% in patients with Hodgkin's lymphoma. The incidence rises steeply after 45 years of age with a peak incidence in 60-69 age group with a male predominance⁴.

Among the divisions of the trigeminal nerve, the ophthalmic is most commonly involved followed by the maxillary and mandibular divisions. HZ follows a prodromal, active and chronic stage⁵. The prodromal stage is classically represented with mild-to-moderate burning or tingling sensation, often associated with fever, headache, general malaise and the pain may masquerade as toothache, otitis media, migraine headache, myocardial infarction, depending on the dermatome affected. It may last for 2-3 days and is succeeded by unilateral appearance of erythematous, maculopapular rash which eventually progress to sparse or dense vesicles representing the active stage. Following which, the resolution phase begins wherein the vesicles become pustular and ulcerate, eventually healing in 14–21 days with or without scarring. Oral lesions are present in conjunction with the overlying skin; manifest as white, opaque vesicles which rupture to form shallow ulcerations of size approx. 1-4mm, on the movable or bound mucosa⁵.

Post-herpetic neuralgia (PHN) is the most common complications followed by secondary bacterial infections,

ophthalmic, cranial and peripheral nerve palsies; more commonly seen among elderly individuals and immunocompromised patients with impact on patient's quality of life.

HZ can be diagnosed by its prodromal symptoms followed by its clinical features and can be confirmed by direct staining of cytological smears with fluorescent monoclonal antibodies for VZV, molecular techniques such as dot-blot hybridization and PCR to detect viral antigen².

The main aim of treatment is directed toward pain control, supportive care and definitive treatment to minimize the risk for dissemination, particularly in immunocompromised patients.

Antivirals should be started within 72 hours of rash onset. Acyclovir (800 mg five times a day) reduces infectivity, the severity of lesions and other complications; but it has poor bioavailability⁶. Valacyclovir (1000 mg TID) is 3–5 times potent than acyclovir in earlier reduction of pain and in reducing the incidence of PHN¹. Corticosteroids combined with an antiviral agent is recommended in acute zoster pain, Ramsay Hunt syndrome, and ocular complications⁷.

The intense pain can be treated with analgesics, narcotics, tricyclic antidepressants, anticonvulsants, gabapentin and

percutaneous electric nerve stimulation⁸. The first line of treatment for PHN is gabapentin and 5% lidocaine patch; followed by opioid analgesics and tricyclic antidepressants⁹. Fever should be treated with antipyretics that do not contain aspirin, as it is associated with the development of Reye syndrome, which is potentially fatal; ibuprofen is the preferred analgesic. Skin lesions should be kept dry and clean to prevent secondary infection; antibiotics may be administered to treat such secondary infections¹⁰.

4. Conclusion

HZ can affect any age group with a higher incidence in elderly and immunocompromised individuals with increased morbidity, requirement for hospitalization and complications. This case signifies the evaluation of pain, its type and course with thorough clinical examination which aids in early diagnosis. Prompt treatment with antiviral drugs, analgesics and corticosteroids reduces the duration and the severity of HZ infection with minimal complications. HZ vaccination for individuals aged ≥ 60 years reduces the incidence, burden of illness, and morbidity associated with it and PHN. As HZ pain may masquerade as toothache, the diagnosis and treatment of HZ infection still remains a challenge.

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