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**Case Report**

# Herpes zoster with oro-facial involvement – Report of a case and detailed review of literature

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## ABSTRACT

Herpes zoster or shingles is a recurrence of varicella zoster virus that entered the cutaneous nerve endings during an earlier episode of chicken pox, travelled to the dorsal root ganglia, and remained in a latent form. Nerves most commonly involved are C3, T5, L1, L2 and first division of trigeminal nerve. The condition is characterized by occurrence of multiple, painful, unilateral vesicles and ulceration which shows a typical single dermatome involvement. The infection usually affects elderly individuals, and if present in the younger age group, a suspicion should be raised about the immune-compromised status such as HIV. Many patients report to the dental clinic with the complications of herpes zoster, with trigeminal nerve involved in about 15% cases and most commonly the ophthalmic division. Diagnosing these complications of herpes zoster could pose a challenge to an oral physician due to their varied presentation ranging from post herpetic neuralgia, external root resorption, osteonecrosis and tooth exfoliation. This paper reports a case of herpes zoster with unilateral vesicles over the left side of upper and middle 1/3rd of face along the trigeminal nerve tract, with intraoral involvement of buccal mucosa and palate on the same side.



***Keywords:*** *Herpes zoster, Shingles, Unilateral vesicular lesions, Trigeminal nerve, Acyclovir*

## INTRODUCTION

Varicella zoster virus is an ubiquitous, double-stranded DNA virus which belongs to the subfamily of human alpha herpes virus.[1] The association between varicella and herpes zoster was first made in 1892. It was later recognized that the pathologic changes of herpes zoster were usually limited to one dorsal root ganglion or the sensory ganglion of a cranial nerve producing pain and skin lesions along the distribution of the involved nerve(s). It is now well established that a herpes zoster infection (shingles) requires pre-exposure to the varicella zoster virus. The primary varicella virus infection causes an acute, generally mild infection (chicken pox) and the virus subsequently establishes latency elsewhere within the sensory ganglia. The virus is then later reactivated to cause a herpes zoster (HZ) infection.[2] Zoster probably results most often from a failure of the immune system to contain latent varicella zoster virus replication. Whether other factors such as radiation, physical trauma, certain medications, other infections, or stress can also trigger zoster has not been determined with certainty. Nor is it entirely clear why circulating varicella antibodies and cell-mediated immune mechanisms do not prevent recurrent overt disease, as is common with most other viral illness.[3] As Herpes zoster virus outbreak is commonly characterized by easily observed vesicular skin eruptions that follow the anatomic distribution of affected nerve (s) or nerve branch. Prodromal severe pain is almost always present during these outbreaks. In many cases, pain is the first symptom in the involved area (s) 3–5 days before eruption of the vesicles. A few cases have even been reported without vesicular eruption, making diagnosis difficult.[2] Mucous membranes within the affected dermatomes may also be involved. Zoster of the maxillary trigeminal nerve produces vesicles on the uvula and the tonsillar area, while in involvement of the mandibular division, the vesicles appear on the anterior part of tongue, the floor of the mouth and buccal mucous membrane. In oro-facial

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zoster, toothache may be the presenting symptom.[4] Oral manifestations of herpes zoster appear when the mandibular and maxillary divisions of the trigeminal nerve are affected.[5] Osseous and dental manifestations such as devitalized teeth, internal resorption, abnormal development of permanent teeth, spontaneous exfoliation of teeth and necrosis of maxilla and mandible have been reported.[6] Herpes zoster affecting the oral and maxillo-facial region may pose a significant diagnostic challenge and should be considered in the differential diagnosis of those presenting with atypical odontalgia.[7] Other diagnosis in the early stages of symptoms may include irreversible pulpitis, acute periapical periodontitis, or even acute sinusitis. Prompt management is required, especially in immune-compromised individuals, to prevent complications, which may cause significant morbidity.[8]

## Case report

A 48 year old male patient was referred by a private practioner to the department of Oral Medicine and Radiology, Z.A dental college and hospitals, A.M.U, Aligarh for a sudden onset of swelling and burning sensation on the left side of face for the past two days. History revealed that the patient visited a private practioner 20 days back for pain in the left upper back teeth. Previous prescriptions showed that 27 was extensively decayed with tenderness on percussion, and 26 was deeply carious. The patient was advised for extraction of 27 and Root canat treatment (RCT) for 26. However, the patient agreed for extraction of 27 and declined RCT for 26. The patient re-visited the private practioner for a swelling and burning sensation on the left side of face for last two days, and was referred to our hospital. Medical and Surgical history was non-significant, except a history of chicken pox in the childhood. Examination revealed a diffuse, non-tender oedematous swelling with widespread erythema along with vesicular eruptions and crusting over the left nasal area, forehead, temporal area, malar region, zygomatic area, pre-auricular region, upper and lower lip region, i.e. the areas supplied by the three divisions of the trigeminal nerve (Figs. 1 and 2). The swelling was accompanied by tingling and burning sensation. No cranial nerve neuropathies were noted with all the other nerves being grossly intact. The left conjunctiva was inflamed, but acuity and papillary reflex were normal. Intra-orally vesicular eruptions, erythema and areas of ulcerations were noted unilaterally over the hard palate and buccal mucosa on the left side (Figs. 3 and 4). No dysphagia or odynophagia was reported. Generalised plaque and calculus was noted, along with deep proximal caries in relation to 26 and missing 27.

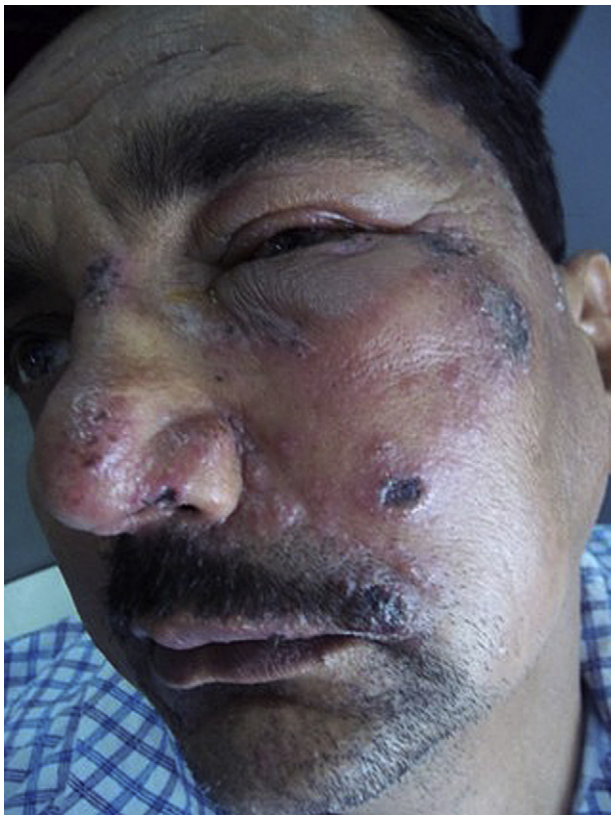

**Fig. 1** Diffuse oedematous swelling with erythema and vesicles over nose, lips, cheek, zygoma region.

There were no skin lesions accompanying the oro-facial lesions. Hence, a diagnosis of Herpes zoster of left ophthalmic, maxillary and mandibular branches of the trigeminal nerve was made. Opthalmological opinion was sought to exclude corneal ulcerations and the patient showed no signs of immunosuppression. Investigations included Tzanck smear, which revealed multi-nucleated giant cells. Serum immunoglobulin levels, herpes simplex virus (HSV) antigen detection and viral culture were not done due to lack of facilities. The patient was prescribed oral acyclovir (800 mg five times a day for 10 days), oral prednisone (5 mg once daily for 10 days) and anti-inflammatory mouth rinse for 10 days. The patient showed remarkable improvement in the lesions (Figs. 5–7) and had shown no signs of recurrence in one year follow up period.

## DISCUSSION

Varicella zoster (VZV) is a herpes virus, and, like other herpes viruses, it causes both primary and recurrent infection and remains latent in neurons present in sensory