

**Case Report**

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# Simultaneous Occurrence of Chicken Pox and Herpes Zoster with Facial Nerve Palsy in Immunocompetent Patient- A Case Report



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## Abstract

Herpes zoster is caused by reactivation of the latent varicella zoster virus which is present due to an earlier varicella infection. The simultaneous occurrence of herpes zoster and varicella zoster in the same patient is sufficiently uncommon to warrant notice. During the prodromal stage, the only presenting symptom may be odontalgia, which may prove to be a diagnostic challenge, since many diseases can cause or facial pain, and the diagnosis must be properly established before final treatment. Here we present a case of herpes zoster involving the second division of right trigeminal nerve masquerading as odontalgia with simultaneous occurrence of varicella zoster and right facial nerve palsy.

**Keywords:** Herpes zoster; Chicken-pox; Varicella zoster virus; Simultaneous occurrence of chicken pox and herpes zoster; Odontalgia

## Introduction

Herpes Zoster (HZ) occurs as a reactivation of Varicella Zoster Virus (VZV) that remains latent in dorsal sensory nerve root ganglion after primary varicella infection (chicken-pox). Bokay [1] was the first to note the association of Varicella Zoster (VZ) & HZ. Since his observation, many such cases have appeared in the medical press in which varicella had developed in susceptible individuals when exposed to HZ and vice versa. Ferryman [2] reviewed about 100 cases, and concluded that this combination of diseases was common in the elderly men; and that varicella followed herpes zoster within five days. Campbell [3] reviewed the literature to date, and described three cases. He stated that in all his cases an attack of unilateral HZ was followed by the development of a varicella rash at interval of five to seven days. John Almeyda [4] also reported 3 such cases in which HZ followed by VZ. Sukhala [5] also reported such unusual case of simultaneous occurrence of HZ ophthalmic us involving the ophthalmic and maxillary division of trigeminal nerve followed two days later by the generalized chicken pox. Chava [6], published a case series in which he described HZ may arise as precede to VZ as in the case of 85 year old male patient, who never had varicella or zoster developed HZ of all three trigeminal branches of left side with superinfection of staph aureus and proteus species and typical varicella rash with lesions on the buccal mucosa and fauces.

## Case Report

48 year old male non diabetic non hypertensive developed papulo-vesicular rashes over right side of face, toothache and fever. He approached to a local dentist and was advised to take co-amoxiclav and analgesics. As there was no improvement moreover rashes spread along the right maxillary nerves (V2) and the right half of the palate, he presented to us and admitted on the 5th day of rashes. Lesions were painful, burning in nature, non-pruritic and associated with watering & redness of right eye. Typical chicken-pox lesions were also present all over the torso and both upper limbs, sparsely over lower limbs. He had no past history of chickenpox; his sister-in-law (1st level contact) also developed chicken pox after a few days. He developed right sided peripheral facial nerve palsy during the course of the disease. Other cranial nerve examination was found normal. There were no vesicles or other form of eruption in the auricular zone. The tympanic membrane, external auditory canal and meatus, concha, tragus, antitragus, helix and fossa, and posterior surface of the lobe of the ear were entirely normal. There was no earache throughout the course of the illness.

## Clinical examination

Febrile (temp 102.6 °F), Pulse-92bpm, BP-120/90mm of Hg, no P/I/C/Cy/O, S/E- NAD.

## Investigation

RBS-116mg/dl, s. Na<sub>+</sub>-132.6mEq/L, s. K<sub>+</sub> 4.72mEq/L, Hb-12.3gm%, TC-6000/cu mm, P-63, L-25, M-10, E-02, ESR-15, HIV-1/2 non-reactive, Liver function test-within normal limits, swab from right side face lesions- staphylococcus aureus. Tzank smear from vesicles found to be positive. Varicella- Zoster IgG antibody was positive and IgM was negative sent on 10<sup>th</sup> day of fever.

## Diagnosis and treatment

Diagnosis was made on the basis of history, clinical profile and laboratory reports as the simultaneous occurrence of HZ of second division of trigeminal nerve & VZ with superadded secondary infection of staphylococcus aureus and peripheral facial nerve palsy. He was managed over tab valcyclovir, tab gabapentin, IV ceftriaxone, acyclovir ointment for both eye and skin lesions. He improved satisfactorily and then discharged. On subsequent follow up his skin lesions healed by crusting, but painful sensation and paresthesia over right maxillary nerve distribution persisted. On subsequent follow-up facial palsy improved completely.

## Discussion

The majority of HZ infections involve the thoracic and lumbar dermatomes; however, approximately 13% of patients present with infections involving any of the three branches of the trigeminal nerve. The ophthalmic branch is most commonly affected; however, in our case only the maxillary branch is involved; this is rare (1.7% of cases) [7]. Occurrence of the facial nerve palsy with trigeminal nerve HZ is even rarer, one such case reported by John D Spillane. But the simultaneous occurrence of the facial nerve palsy after maxillary nerve HZ with a typical

varicella rash all over the body in immune competent patient is extremely uncommon and to my knowledge not yet reported.

## Conclusion

In conclusion, a case of HZ affecting the second division of the trigeminal nerve is reported along with facial nerve palsy and simultaneous occurrence of chicken-pox in immune competent patient. This case highlights the importance of a thorough dental history and examination in patients with odontalgia. Those cases presenting with atypical odontalgia, HZ should be considered in the differential diagnosis. Furthermore, clinicians should be aware of atypical presentation of VZV. Clinicians are urged to recognize the early features of HZ and to provide prompt antiviral therapy to prevent the complications.

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