Herpes Zoster Involving Trigeminal and Facial Nerve In an Immunocompetent Patient

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Summary

Herpes Zoster ophthalmicus is associated with ocular complications in 50% to 89% of cases. The complications may involve the skin, anterior segment, optic nerve, retina, and central nervous system. Ocular involvement may manifest as a self-limited conjunctivitis, scleritis, stromal keratitis and uveitis. Among neurological complications, post-herpetic neuralgia is the most common, followed by cranial nerve palsies, partial or complete ophthalmoplegia, meningitis, myelitis, encephalitis and delayed contralateral hemiparesis, which more commonly occur in immunocompromised patients. A 52 year old immunocompetent male with herpes zoster involving the facial nerve, along with the mandibular and ophthalmic division of trigeminal nerve leading to lagophthalmus, is presented here.

Introduction

Herpes Zoster (Shingles) is an acute, cutaneous viral infection caused by the reactivation of varicella-zoster virus (VZV). It usually presents with neurologic pain and a characteristic vesicular rash that follows a dermatomal distribution and does not cross the midline. The lifetime risk of developing herpes zoster infection is estimated at 10% to 20%. In addition to skin or mucosal involvement, VZV reactivation commonly affects the cranial nerves, among which the trigeminal and facial nerves are the most commonly affected due to reactivation of HZV latent in Gasserian and Geniculate ganglia, but either of them may be affected at a time. Ophthalmic zoster accounts for 10-15% of all cases of VZV infection and occurs more often in elderly people. Compared with mandibular and maxillary divisions of the trigeminal nerve, the ophthalmic branch is 20 times more frequently involved in herpetic infections. Here, we present a case of 52 year old immunocompetent male with herpes zoster involving the facial nerve with mandibular and ophthalmic division of the trigeminal nerve leading to lagophthalmos.

Case History

A 52 year old male presented to skin OPD with complaints of painful lesions over the right side of chin, oral cavity and external ear since 8 days with inability to close his right eye since 1 day. Eight days earlier, he developed fluid filled lesions over the right side of tongue and oral cavity which progressed to involve the same side of the chin and external ear. The patient took treatment from a private doctor in the form of Acyclovir (200mg) 3 times a day, with partial improvement. He also experienced inability to close his right eye, with Bell’s phenomenon positive (upward deviation on closing his left eye), along with slurred speech and difficulty in chewing. Taste sensations were normal, with no complaints of hearing loss, tinnitus, vertigo, headache, nausea or vomiting. On cutaneous examination, grouped crusted lesions over the right chin (Figure-1), with hyperpigmentation, erosions and crusting over the right side of cheek were present. There was a swelling under the right eye and lagophthalmos (Figure-1). Few grouped eroded and crusted vesicles were present over the right ear (Figure-2). The pupils were equally reactive to light, with no afferent pupillary defect. No deviation of the angle of mouth or any ocular motor palsy were noted. Motor involvement of the trigeminal nerve was normal, with intact masseter and temporal muscles. No lesion was present at the tip of the nose. Slit lamp examination for cornea and intraocular pressure was normal. There was loss of corneal sensations in the right eye and Bell’s phenomenon was good. Laboratory investigations such as random blood glucose and complete hemogram was normal. ELISA for human immunodeficiency virus was negative. The patient was diagnosed as a case of herpes zoster, with involvement of the trigeminal and facial nerve, and was treated with oral acyclovir, cefadroxyl (500mg), analgesics and prednisolone in tapering doses. The patient was advised eye lubricants and taping of eyelids at bed time to prevent exposure keratitis. He showed improvement on follow up visit after 7 days.

Keywords: herpes zoster, Bells phenomena, cranial nerves

Figure 1: Grouped crusted lesions over the right chin with swelling under the right eye and lagophthalmos (Bells Phenomena).
In a study conducted by Gilbert et al., 56% of patients who were diagnosed with Bell’s palsy had ZSH as evidenced by laboratory analysis. After an extensive literature search, we could find only 126 cases of combined trigeminal and facial nerve involvement in cases of Herpes Zoster. The concomitant impairment of both the facial and the trigeminal nerve in a same disease course may be explained by their underlying anatomic proximity. In our patient, the absence of herpetic lesion along the sensory distribution of the facial nerve allowed us to exclude the possibility of an underlying Ramsay–Hunt syndrome.

The therapy in herpes zoster infection aims to shorten the clinical course, provide analgesia and to prevent complications. Antiviral agents (acyclovir, famcyclovir, pencyclovir, valacyclovir) are nucleotide-like substances given for 7-10 days. Corticosteroids (prednisone) have an anti-inflammatory action used mainly in acute pain. Analgesics (acetaminophen, non steroidal anti-inflammatory drugs) and tricyclic antidepressants (amitriptylene) can also be used. Active immunity is provided by vaccines with a 99% effectiveness against varicella infection.

Patient management should be directed at limiting corneal exposure depending on the amount of lagophthalmos and, the presence of Bell’s phenomenon and paralytic ektropion. Corneal protection is the key and requires ocular lubrication by means of preservative-free artificial tears, ophthalmic ointment or moist chambers. In addition, bedtime taping of the eye is recommended. Temporary tarsorrhaphy, upper lid botulinum toxin A injection, or punctual occlusion are other temporary options.

**References**

1. Sanjay S, Huang P, Lavanya R. Herpes zoster ophthalmicus. *Curr Treat Options Neurol* 2011; 13:79-91.
2. Dworkin RH, Johnson RW, Breuer J, Gnann JW, Levin MJ, Backonja M et al. Recommendations for the management of herpes zoster. *Clin Infect Dis* 2007; 44:S1-26.
3. Meister W, Neiss A, Gross G, Doerr H, Höbel W, Malin J, et al. Demography, symptomatology, and course of disease in ambulatory zoster patients. A physician-based survey in Germany. *Intervirology* 1998; 41:272–7.
4. Liesegang TJ. Herpes zoster ophthalmicus natural history, risk factors, clinical presentation, and morbidity. *Ophthalmology* 2008; 115:S3-12.
5. Gupta LK, Kuldeep CM, Mittal A, Singhal H. Multidermatomal herpes zoster in an immunocompetent female. *Indian J Dermatol Venereol Leprol* 2005; 71:210–1.
6. Straus SE, Oxman MN, Schmader KE. Varicella and herpes zoster. In: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ, editors. Fitzpatrick’s Dermatology in General Medicine. 7th ed. New York: McGraw Hill; 2008. pp. 1885–98.
7. Holland NJ, Weiner GM. Recent Developments in Bell’s Palsy. *BMJ* 2004; 329:553-7.
8. Horton JC. Neurovisual manifestations of herpesviruses. *Int Ophthalmol Clin* 2002; 42:33–41.
9. Edgerton AE. Herpes zoster ophthalmicus: report of cases and a review of the literature. *Trans Am Ophtalmol Soc* 1942; 40:390-439.
10. Wakil SM, Ajlan R, Archers B. Herpes zoster ophthalmicus complicated by ipsilateral isolated Bell’s palsy: a case report and review of the literature. *Can J Ophthalmol* 2012; 47:339-43.
11. Anandakannan K. Trigeminofacial herpeszoster—a case report. *Indian J Ophthalmol* 1976; 24:36-7.
12. Mavrikakis I. Facial nerve palsy: anatomy, etiology, evaluation, and management. *Orbit* 2008; 27:466-74.

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