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Case Report

An acute case of herpes zoster ophthalmicus with post-herpetic neuralgia and cranial nerve neuropathies

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ABSTRACT

Herpes zoster is a common diagnosis in the emergency department which is caused by reactivation of varicella zoster virus (VZV). Reactivation in ophthalmic division of trigeminal nerve causes Herpes zoster ophthalmicus. It is associated with a rash in the distribution of the trigeminal nerve dermatomes especially in ophthalmic and maxillary divisions. The most often complications of HZO are episcleritis, keratitis, glaucoma, and cataracts. HZO with cranial neuropathy is a very rare condition. So herewith we report a case 51 years old female with swelling, redness in right eye and drooping of eyelids on the right side. She had tearing and double vision. She was diagnosed with herpes zoster ophthalmicus with neuropathy of 3rd, 4th and 6th cranial nerves. The patient was treated and discharged in a healthy condition. Timely diagnosis and treatment can decrease morbidity and prevent the complication.

Keywords: Herpes zoster opthalmicus, Cranial nerve neuropathies, Varicella zoster virus

INTRODUCTION

Herpes zoster is a common infection caused by the human herpesvirus 3. The estimated risk of HZ in lifetime is around 10-20% but the incidence increases to 50% in patients with over 80 years of age.[1] Herpes zoster ophthalmicus occurs when reactivation of the latent virus in the trigeminal ganglia involves the ophthalmic division of the nerve. The virus damages the eye and the surrounding structures by secondary perineural and intraneural inflammation of sensory nerves.[2]

Among all the cases of Herpes zoster approximately 10 to 25 percent will develop Herpes zoster ophthalmicus.[3] Episcleritis, keratitis and glaucoma are the common complication of HZO. Post herpetic neuralgia is a very rare complication of HZO, which has the incidence of only 7%.[4] HZO has been described as a late complication, often up to 2 months after the initial herpetic rash and is seen in only 11-29% of patients with HZO.[5] Increased age and prodromal symptoms are associated with a higher prevalence of postherpetic neuralgia. Here we report a case of 51 year old female with craniopathy of 3rd, 4th and 6th cranial nerves.

CASE REPORT

A 51 years old female came to emergency department with the complaints of orbital pain on the right side for the past 20 days. Patient was conscious and oriented. She was a known diabetic and hypertensive patient for the past ten years. Patient had the complaints of Swelling and redness of the right eye associated with orbital pain for the past 20 days. She developed tearing along with ptosis of right eyelids (Figure 1). After which she developed fluid filled lesions around the right eye along with which she developed double vision.

She was afebrile with normal pulse rate and BP of 150/80 mmHg. Neurologic examination revealed right eye ptosis along with complete external opthalmoplegia involving the right 3rd, 4th, and 6th cranial nerves (Figure 2).

She had mildly elevated urea level (39 mg/dl) and normal creatinine level. CT and MRI of orbits revealed no significant abnormality. So the diagnosis was made as herpes zoster opthalmicus with cranial nerve neuropathy of 3rd, 4th and 6th nerve, with respective to the history and physical examination.

She was started on injection dexamethasone 8 mg IV thrice daily along with opioid analgesics (tramadol 37.5 mg) and neuropathic pain medications (pregabalin 75 mg and amitryptylline 10 mg) with diabetes and hypertension medications. Patient extraocular movements improved and discharged after two weeks and asked to review in after 2 weeks in neurology department.

Figure 1: Showing ptosis with fluid filled lesion around right eye.

Figure 2: Showing restriction of eyeball movements with visible skin lesions.

DISCUSSION

Varicella-zoster virus manifests itself as two distinct syndromes in humans. During primary infection, the virus causes chicken pox. After the initial infection, VZV remains latent in the dorsal root ganglia of sensory neurons, possibly reappearing as herpes zoster later in the patient's life. Patients with history of chicken pox have a lifetime risk of 10-20% of HZO. The trigeminal ganglion give rise to the three divisions of cranial nerve V (CNV), namely the ophthalmic nerve, the maxillary nerve, and the mandibular nerve. The ophthalmic nerve gives rise to three branches: the supraorbital nerve, the supratrochlear nerve, and the nasociliary nerve. HZO is reactivation of VZV in the ophthalmic division of the trigeminal nerve (V1). It usually begins with flu-like symptoms including fever, myalgia, and malaise for approximately one week. Ghaznawi et al has reported that the most common decade of onset of HZO is between age 50 and 59 years.[6] Our patient lies in the same decade. The eyelids are the most commonly affected part which undergoes ptosis secondary to edema and inflammation.[7] Redness, as well as pain and swelling of the conjunctiva and episclera are often noticed in patients with HZO. Our patient also had redness, pain and swelling on the right side. In about 60% of cases, patients will complain of a painful dermatomal prodrome prior to the development of any rash.[8] Our patient reported to have ocular symptoms prior to the development of Herpes lesions over V1 region. Post inflammatory hyperpigmentation was also noted around the right eye.

We have noticed a rarest form of complication which occurs only in 7% of patients with HZO,that is post herpetic neuralgia with cranial neuropathy of 3,4 and 6th cranial nerves. The most commonly affected nerve is usually the third cranial nerve and, less commonly, the fourth nerve.[9] But in our patient we have noticed that all the three nerves are affected. Appropriate diagnosis should be done based on the history and examination findings. Most of the cases described in literature used steroids found that it hastens the recovery.[10] Usually it takes minimum 7 days to see the beneficial effect of treatment after the onset. Our patient was fully recovered and discharged after two weeks of treatment.

CONCLUSION

HZO is a potentially serious reactivation of VZV in the distribution of the ophthalmic division of the trigeminal nerve. Once the diagnosis of HZO is made, appropriate antiviral and adjunctive therapy should be started for the recovery of the patient and to prevent long term complications.

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