

Case report: Herpes zoster oticus with cranial polyneuropathies

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Abstract

Herpes zoster oticus is defined as a herpetic vesicular rash on the concha, external auditory canal or pinna with a lower motor neuron palsy of the ipsilateral facial nerve. It accounts for more facial palsies than was previously thought. The occurrence rate of associated cranial polyneuropathy has been reported to be 1.8-3.2% and the cranial nerves VII, VIII, IX and X are most commonly affected. Here we present a case of herpes zoster oticus with cranial polyneuropathy. The patient was treated with antiviral and oral steroids and the symptoms were improved.

Keywords: herpes zoster oticus, cranial neuropathy, ramsay hunt syndrome

Introduction

Herpes zoster oticus is commonly known as Ramsay Hunt syndrome following the first description of 60 cases by John Ramsay Hunt in 1907. The disease is a reactivated varicella zoster infection from dormant viral particles resident in the geniculate ganglion of the facial nerve and the spiral and vestibular ganglia of the VIIIth nerve. Spread from the facial nerve to the VIIIth nerve and/or other cranial nerves is thought to occur via the vasa nervorum, although there are also numerous neurological anastomoses between the lower cranial nerves within the skull base which allow for easy viral transmission. We present a case of herpes zoster oticus with multiple lower cranial neuropathy.

Case Report

A 50 year old male patient presented to the ENT department with complains of right ear discharge, pain in ear, right sided decreased facial movement, fluid regurgitation from nose and change in voice since 7 days. On clinical examination there were vesicles in right ear with purulent discharge in right external auditory canal, features suggestive of right sided infranuclear facial palsy (House- Brackmann Grade IV), decreased right sided palatal movement and fixation of right vocal cord in paramedian position.



Fig 1



Fig 2



Fig 3



Fig 4

MRI Brain showed no obvious intracranial abnormality. Patient was started on oral acyclovir 800mg five times a day and oral prednisolone 80mg/day for few days followed by gradual tapering and physiotherapy. There was significant improvement in palatal movements and right vocal cord mobility. Facial weakness persisted with healing of conchal lesions.

Discussion

Differentiation of Ramsay Hunt syndrome or herpes zoster oticus associated with cranial polyneuropathy from other diseases is essential for accurate diagnosis and proper management. After primary infection, the varicella viruses usually remain dormant in sensory dorsal root ganglia and activated from latency in elderly, diabetes and immunocompromised patients. Reactivation of varicella from geniculate ganglion causing LMN type of 7th cranial nerve palsy and vesicular rash in external ear along with severe otalgia comprises the Ramsay Hunt syndrome.

The most common presentation of herpes zoster in the head and neck region is called Ramsay Hunt syndrome (RHS), which rarely accompanies multiple cranial nerve involvement. Herpes zoster also involves the mucous membrane of the tongue, palate, pharynx, and larynx. Herpes

zoster infection of the larynx accompanied by RHS with cranial polyneuropathy is extremely rare, with only few reported cases in the literature [1-5].

About 12% of all peripheral facial nerve palsies are caused by varicella zoster virus. The occurrence rate of associated cranial polyneuropathy has been reported to be 1.8-3.2% and cranial nerves VII, VIII, IX and X are the ones most commonly affected [6, 7].

In present case, the skin lesions which were confined to right pinna with associated LMN type of right facial palsy was the key to the diagnosis of RHS. Besides these abnormalities, oropharyngeal discomfort and complaints such as dysphagia and hoarseness were more troublesome symptom due to paralysis of the right sided pharyngeal and laryngeal muscles. Although MRI scan of Brain can show the enhancement of the involved nerve in some cases, the findings do not provide information about severity or prognosis [8, 9]. In present case, no enhancement of involved cranial nerve (CN) was noted on MRI with gadolinium enhancement even with multiple involvement of CN VII, IX and X.

The cause of multiple CN involvement has been explained as a consequence of an inflammation-induced infarction of a small vessel knowing that a small branch of the carotid artery supplies two or three contiguous nerves [4]. Also the occurrence of anastomosis among 5th, 7th, 9th and 10th cranial nerve explains why the symptoms occur in these nerves. In addition, cranial nerves neighbourhood in the cavernous sinus also explain the theory of herpes zoster oticus with multiple cranial nerve palsy [10].

As the patient was able to take semisolid diet orally, he was given oral acyclovir along with oral steroid. Recent data suggests that treatment with acyclovir prevents the permanent facial palsy in Ramsay Hunt syndrome.

Conclusion

Multiple cranial nerve palsy has been observed in some cases of patients who were referred with a preliminary diagnosis of Ramsay Hunt syndrome. These patients are required to be examined in detail for involvement of other cranial nerves. Early diagnosis and treatment is required for reversing the functions of cranial nerves and decreasing the chance of developing other complications.

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