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Case Report
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Visual Evoked Potential Findings in a Patient Suffering from Herpes Zoster Ophthalmicus

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Abstract

A 62-year-old woman with herpes zoster ophthalmicus was referred to the eye clinic for visual evoked potential recording. She was complaining of headache epiphora and blurred vision in her right eye. She was treated for the disease before coming to the clinic. The latency of VEP, P100 peak was delayed for the right eye, whereas the VEP of the left eye was normal.

Keywords: Herpes Zoster Ophthalmicus, Visual Evoked Potential

Introduction

Herpes zoster (HZ) or shingles is a viral infection that causes an outbreak of a painful rash or blisters on the skin. The varicella-zoster virus causes it. The rash most often appears on a band of rashes or blisters in one body area. This virus may involve the visual system, too. Therefore, Herpes zoster ophthalmicus (HZO) occurs when inflammation spreads from the ganglion of Gasser to the ophthalmic branch of the trigeminal nerve. Optic neuritis, a very rare sequela of HZO, can occur simultaneously with the acute vesicular skin eruption or, more frequently, as a postheraputic complication. Visual evoked potential (VEP) is a suitable technique for dealing with optic neuritis. Shushtarian SMM et al. (2017) worked on an optic neuritis patient. They used visual evoked potential using a flash type of stimulation to screen the visual pathway of the patient [1]. VEP can be used in patients suffering from blurred vision when the fundus eye examination is normal. A patient with blurred vision suffering from endometriosis and epilepsy was reported as a case one. The patient underwent a VEP examination, and a delay of VEP, P100 latency, was obtained. The reason for this delay was nothing but visual pathway disturbances due to side effects of anti-epileptic medicine carbamazepine [2]. There are some related references in this regard [3-4]. In fact, VEP can be used in several pathological conditions of the visual system [5-28]. Based on a detailed literature review, the authors recorded VEP in a patient suffering from Herpes zoster ophthalmicus (HZO) with blurred vision to look for possible visual pathway disturbances in the patient.

Case Report

A 62-year-old woman suffering from Herpes zoster ophthalmicus (HZO) in her right eye was referred to Basir eye clinic for a visual evoked potential examination. The history of the patient showed that she had an incidence of HZO two months before. During the episode, she had pain and tingling in the forehead, eye pain, redness, and swelling of the eyelids. She was treated for the illness, and the symptoms subsided partially. At the moment, she was complaining of epiphora, inflammation, blurred vision of the right eye and headache. The VEP examination of both eyes showed normal latency of VEP, P100 peak on the left eye, i.e. 95 msec, and delay in the right eye, i.e. 105 msec (The normal value for VEP, P100 peak latency in our laboratory is about 100 msec).

Discussion

Shingles or herpes zoster may involve the visual system and produce herpes zoster ophthalmicus (HZO). The patient suffering from HZO was referred for a VEP examination. She was treated for her illness, but still, after two months, she was complaining

of headaches and blurred vision in her right eye. The VEP recording showed a delayed latency of VEP, P100 peak of the right eye, which indicates visual pathway disturbances. The following references may support the result of the present work.

Breno de Mello ritor et al. 2011 reported a 74-year-old woman who presented with HZ optic neuritis 45 days after developing an incompletely treated bout of trigeminal HZ, characterized only by pruritus. They concluded that the importance of non-specific manifestations of cutaneous HZ in the prodromal phase is to offer timely and appropriate treatment [29].

An old reference by Gunduz K et al. 1994 reported that a 48-year-old male diagnosed with right-onset herpes zoster ophthalmicus developed visual acuity loss in the left eye during the following three weeks. VEP recording revealed a marked increase in P100 latency and a marked decrease in amplitude in both eyes. Finally, they concluded that possibly the transsynaptic or intraneural spread of the varicella-zoster virus in the optic nerve might be responsible for this unexplained contralateral loss of visual acuity. [30]

Conclusion

Herpes zoster ophthalmicus may produce visual pathway abnormalities in the visual system, which can be proven by the visual evoked potential.

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