Case Report

Blurred Vision in a Patient Suffering from Endometriosis and Epilepsy

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Abstract

A 25-year-old lady was referred to Basir eye clinic for the visual evoked potential examination. Her medical history showed she had endometriosis and epilepsy, for which she used dienogest and carbamazepine. Certain drugs produce visual disturbances, which can be diagnosed based on the visual evoked potential examination.

Keywords: Blurry Vision; Dienogest; Carbamazepine; Visual Evoked Potential.

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Introduction

The visual system is among human organs that may face different physiological or pathological conditions. Visual electrophysiology is a series of tests to deal with these conditions. Visual evoked potential (VEP), electroretinography (ERG), and electrooculography (EOG) are the routine tests used in this regard.

Shushtarian S M et al. 1999 measured VEP during the physiological menstruation period in the (visually) healthy female population. They observed an increase in latencies of VEP. P100 peak during this period due to hormonal changes [1].

Sarzaeim F et al. (2022) investigated the effects of occupational vibration caused by road drilling machines in 12 male laborers. They found that the adverse effect of occupational vibration on the visual pathway of laborers can be diagnosed by VEP [2].

Keramti S et al. (2021) studied retinal screening in prolactinoma patients using flash ERG. They concluded that prolactinoma does not affect the retina of patients as far as the flash type of ERG was concerned [3].

Shushtarian S M et al. 2017 examined the retina of a patient with Sjogren's syndrome. They observed pathological changes in the retina of the patients, which could be diagnosed by the EOG test [4].

Several studies have been conducted in this regard [5-13].

Vision electrophysiological examination can also be used to assess the toxic effects of certain drugs on the visual system.

Allahdady F et al. investigated the toxic effects of Hydroxychloroquine (HCQ) on the visual system of patients with rheumatoid arthritis (RA). They concluded that HCQ could produce retinal toxicity, which can be diagnosed by the amplitude and latency of VEP.P100 Peak [14].

Tajik F et al. (2018) studied the toxicity of amiodarone on the retina of patients with heart failure. They found pathological changes in the retina of these patients, which could be measured by the Arden index (AI) of the EOG test [15].

Sodium Valproate (SV) can affect the retina of patients with epilepsy and bipolar disorder. In these cases, the retinal changes due to this drug treatment can be screened by ERG test [16].

Based on a detailed review of the literature, VEP was examined in a patient treated with dienogest and carbamazepine to investigate the possible toxic effects of these drugs on the visual pathways.

Case Report:

A 25-year-old female patent with Blurred vision was examined by VEP test. The latency of VEP P100 peak was delayed in her left eye 112 msec whereas it was normal for the right eye i.e. 95 msec (The normal range of VEP P100 peak is about 100 msec in our laboratory). The medical history of the patient shows that she is suffering from endometriosis and also epilepsy for which she was under dinogest and carbamazepine. Digonest was terminated after 3 months whereas carbamazepine continued for 11 years. Dinogest that too for three months does not affect the visual pathway where as carbamazepine certainly affects the visual pathway which can be measured by VEP.

Discussion

A lady with blurred vision was referred for a VEP examination. She was under dienogest for endometriosis and carbamazepine for epilepsy treatment. The dienogest was terminated after three months, whereas carbamazepine continued for 11 years. Infarct is among the side effects of carbamazepine that leads to blurred vision in the patient, not dienogest.

Shushtarian S M et al. 2021 reported a case

of an epileptic patient who received sodium valproate and carbamazepine treatment. They found VEP changes in the patient caused by the side effects of the anti-seizure medications [17].

Sarzaeim F et al. (2022) studied 20 patients under polypharmacy anti-seizure drug treatment. They observed a delay in VEP, P100 Peak of the patients as a result of the drugs [18].

Two old studies exist regarding the side effects of carbamazepine on the visual system using VEP.

Yuksel A et al. (1995) investigated the effect of valproate and carbamazepine on VEP in epileptic children. They observed that VEP P100 latencies were significantly prolonged after one year of carbamazepine therapy [19].

Verrotti A et al. (2000) studied 58 epileptic patients under sodium valproate or carbamazepine monotherapy. They concluded that carbamazepine leads to a significant increase in VEP latencies [20].

Conclusion

The patients receiving anti-seizure drug treatment should be examined at certain intervals to screen the visual pathway using the VEP test.

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Footnotes and Financial Disclosures

Conflict of interest:

The authors have no conflict of interest with the subject matter of the present manuscript.