Case Report

Diplopia and Blurry Vision Following Refractive Eye Surgery: a Comorbidity Case Report

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Abstract

Refractive eye surgery is a safe technique as far as visual pathway is concerned. A 39-year patient Complains from diplopia & blurring vision on his second refractive surgery attempt, was referred to visual electrophysiology diagnostic Laboratory of Basir clinic for possible visual pathway disorder. this report explains the visual evoked findings and magnetics resonance imaging of the Patient which indicated a comorbidity of refractive and visual pathway disorders. However, at first glance it considered as side effect of surgery.

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Introduction

Refractive eye surgery is optional eye surgery used to improve the refractive state of the eye and decrease or eliminate dependency on glasses or contact lenses. It is a fact that refractive eye surgeries have become enormously popular worldwide; however, beside its advantage it may have certain side effects like any other routine surgery. The usual side effects of a refractive Surgery include, dry eyes, glare, halos, and double vision [1, 2].

The subject following surgery may have difficulty seeing at night which usually lasts a few days to few weeks. Beside the early side effect of this surgery [3], some people may also get long-term complications like eye infections, vision loss, chronic pain & detached retinas [4, 5]. It is a well-known fact that the surgery does not affect the retina and visual Pathway. The two following work are among number of studies in this connection.

Kemal Ozulkeh et al on 2020 did research on early effects of femtosecond laser-assisted in situ Kerato milensis (LASIK) surgery on retinal ganglion cell thickness (GCT), peripapillary retinal nerve fiber thickness (NFT), and central macular thickness (CMT) obtained by spectral domain optical coherence tomography (SD-OCT) in a healthy population. They came to conclusion that there are no changes in of GCT, NFT and CMT values evaluated with SD-OCT in the early Period after femtosecond LASIK surgery [6].

In a cross-sectional descriptive comparative survey, 25 subjects under radial Keratotomy were enrolled and Visual evoked Potential results, including amplitude and latency of P100 were determined and compared with 25 control subjects. The authors concluded that there is no significant association between visual evoked Potential and radial Keratotomy [7].

Here we report the visual evoked potential findings in a patient with diplopia and blurry vision following refractive surgery & search for the reason.

Case report

A 39 year patient was referred to visual electrophysiology Laboratory in basir clinic for visual evoked potential (VEP). He was complaining from diplopia & blurring vision. The Medical history of the patient showed that he was undergone refractive Surgery on 2011 and the result was successful. After 10 years his visual acuity was reduced. He consulted the ophthalmologist to check up his eyes. He was checked by the consulting doctor & they decide for once more refractive surgery. He was undergone routine medical checkup necessary for refractive surgery. The reports were suitable for operation. He was operated & the operation was successful once again. After 2 to 3 days the patient complains from diplopia & blurry vision. The case was not recovered on second follow up. The consulting doctor referred the Patient to neuro-ophthalmologist for possible visual pathway disorder. Visual evoked patient (VEP) was recorded in patient and latency of P100 Peak was 112 & 125 in right & left eyes respectively (The normal value for VEP, P100 peak is 100 msec in our-lab. Finally the patient was send for MRI examination and there was few plaques in his imaging.

Discussion

Visual evoked potential was recorded in a patient following his second refractive surgery He had his first operation 10 years before. His VEP P100 peak were delayed in both the eyes despite his complain on one i.e., left eye It is already clear that VEP is the projection of

visual pathway [8,9], so the symptoms of diplopia & blurring vision are as a result of underlying visual Pathway disturbances in patient not the operation which was proved by VEP and MRI. It is a fact that refractive Surgery does not affect visual pathway and if the Patient suffer from visual pathway disturbances following surgery is due to a visual pathway disorder which was silent or otherwise treated and not reported by the patient.

Maryam Naser et al on 2017, reported visual disturbances in a patient with Amiodarone treatment following refractive surgery. The 39-year male patient who undergone refractive surgery was referred with chief complain of seeing colored ring around the light & claimed that they have appeared after surgery. The patient medical history showed that he was under Amiodarone treatment for his heart problem and the visual disturbances is a result of drug not the surgery [10]. Along with his chief complain he tested for VEP, ERG and EOG where all were abnormal and on termination of medicine he was recovered from all existing symptoms.

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