

Case Report

Visual Disturbance in a Patient with Amiodarone Treatment Following Refractive Surgery

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Abstract

Amiodarone is an antiarrhythmic medication used to treat a number of irregular heartbeats. Known ocular side effects of amiodarone include visual loss, swelling of the optic disc without visual deterioration and abnormal blue color vision. After discontinuation of amiodarone either a visual improvement or a permanent deterioration may result. Here we report a rare case of visual disturbance in a patient with a history of amiodarone treatment complaining of seeing colored rings around the lights after refractive surgery. After the discontinuation of amiodarone treatment the patient complains subsided.

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Introduction

Amiodarone is an antiarrhythmic medication used to treat and prevent a number of irregular heartbeats. These include ventricular tachycardia, ventricular fibrillation and wide complex tachycardia as well as atrial fibrillation and paroxysmal supraventricular tachycardia ¹. Amiodarone may produce hepatotoxicity and symptomatic hepatic dysfunction ². Cirrhosis, peripheral neurotoxicity nausea, vomiting and muscle weakness are also reported among amiodarone side effects ². The ocular side effects of amiodarone may include visual loss, swelling of the optic disc without visual deterioration and abnormal blue color vision ³. After discontinuation of amiodarone either a visual improvement or a permanent deterioration may result. Here we report a rare case of visual disturbance in a patient with a history of amiodarone treatment complaining from seeing colored rings around the lights after refractive surgery.

Case Report

A 39 year male patient who had undergone refractive surgery was referred with chief complain of seeing colored rings around the lights, and claimed that they have appeared after surgery. The ophthalmologist checked the medical record of the patient and no specific concern was found. The patient eye was examined and the funduscopy was normal. Furthermore the fluorescein angiography did not show noticeable changes. The ophthalmologist asked the patient for possibility of trauma or specific medication and the answer was negative. The ophthalmologist referred the patient for electrophysiological eye examinations such as visual evoked potential (VEP), electroretinography (ERG) and electrooculography (EOG). Significant delay in VEP, P₁₀₀ peak and reduction in amplitude was observed. The ERG b-wave voltage was also reduced and its latency was

increased to some extent. Also EOG was not normal. A literature search showed that these findings may be a side effect of amiodarone treatment in patients with heart problems. The ophthalmologist asked the patient for possible heart problems and amiodarone treatment and the patient response was positive. The ophthalmologist contacted the patient's cardiologist and discontinued the amiodarone medication with his permission. The patient complaints subsided and the only complain left was slight dim vision one week later.

Discussion

Schmidt et al., ³ examined six patients with mean age of 71.7 years (five men, one woman) who were treated with amiodarone. They found that one patient had no visual disturbances and a second patient had no permanent changes of the optic nerve because treatment with amiodarone was discontinued in time and in one patient an abnormal blue color vision was noticed ³. Swelling of the optic disc completely disappeared in five patients after discontinuing the drug, one patient revealed a posterior ischemic optic neuropathy (PION), in two patients a unilateral change of the optic disc occurred, and finally in three patients a severe irreversible lesion of the optic nerve was found at follow-up examinations ³. Domingues et al., ⁴ studied 14 patients under long term amiodarone therapy using pattern reversal visual evoked potential and found a significant prolongation in latency and reduction in amplitude of VEP, P₁₀₀ peak in comparison with the same parameters in normal population. Shaikh et al., ⁵ studied electrophysiological changes in patients undergoing amiodarone treatment using multifocal and full-field ERG. Their patients had received amiodarone at various dosages ranging from 100 mg to 800 mg daily for at least 15 months. No patients were found to have

significant vision loss. Multifocal and full-field ERG were mostly unremarkable, and the mildly subnormal findings in few patients showed no consistent pattern to suggest a toxic cause due to drug.

Conclusion

We recommend that every patient being treated

with amiodarone should be observed by an ophthalmoscope and color vision examination at regular intervals should be performed. Drug should be terminated if eye side effects are observed after consultation with the patient's cardiologist.

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Footnotes and Financial Disclosures

Conflict of Interest:

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