Case report

Topiramate induced acute transient myopia: a case report

Sandra D Gawley

Address: St Paul’s Eye Unit, The Royal Liverpool University Hospital, Prescot Street, Liverpool, Merseyside, UK
Email: SDG* - sandragawley@hotmail.com

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Abstract

Introduction: Topiramate is a sulfamate-substituted monosaccharide mainly used to treat epilepsy in children and adults and for prophylaxis of migraine. This article describes a case of topiramate induced acute transient myopia. The underlying mechanism and management is discussed.

Case presentation: A 34-year-old female complained of sudden onset of blurred vision, 9 days prior to this she had commenced topiramate therapy for migraine prophylaxis. Visual acuity was reduced to 6/36 right eye and 2/60 left eye. Examination revealed ocular anatomical and myopic refractive changes which resolved quickly following discontinuation of the drug.

Conclusion: Ophthalmologists need to be aware of the potential ocular side effects of topiramate. Although relatively rare prompt recognition is key so appropriate management can be instituted.

Case presentation

A 34-year-old female complained of sudden onset of blurred vision. She attended her optician who noted a large myopic shift from −1.00/+0.50 × 90 right eye, −0.75/+0.25 × 95 left eye to −3.50/+0.50 × 90 right eye, −3.50/+0.25 × 95 left eye. Oral topiramate treatment had been commenced for migraine prophylaxis 9 days prior to the onset of her symptoms at a dose of 25 mg once daily (OD), increased 7 days later to 50 mg OD. On examination Snellen visual acuity with her glasses on was 6/36 right eye, 2/60 left eye, with full new myopic correction vision was 6/6 bilaterally. Both eyes were white and quiet but anterior chambers were shallow and the iris and lens were bowed forward. Intraocular pressures (IOP) were 18 mHg and Gonioscopy revealed 360° Shaffer Grade 4 angles, B-scan ultrasound showed resolution of the choroidal effusions and refraction was −0.75/+0.50 × 100 right eye, −0.75/+0.50 × 90 left eye, with this correction vision was 6/5 bilaterally.

Discussion

As well as epilepsy and migraine topiramate has also been used to treat depression, neuropathic pain, as a weight reduction agent and for bipolar disorder. Case reports on ocular side effects of this drug date back to 2001 [1-3]. In September 2001 Ortho-McNeil Pharmaceuticals sent out a
In this case the topiramate induced anatomical changes stopped short of inducing angle-closure glaucoma. The rapid onset of visual loss secondary to the myopia is understandably distressing to the patient and it is helpful to be able to provide some guidance on prognosis – as the mean plasma elimination half life of the drug is about 21 hours [12], rapid visual recovery usually occurs although in some cases it can take several weeks [10]. If unrecognised as a drug-related event serious outcomes could occur (7 cases of permanent visual loss following angle-closure glaucoma have been reported) [10]. Ocular examination before starting topiramate cannot identify eyes at risk [8]. Patients commencing topiramate should therefore be advised to immediately report any symptoms of eye pain or blurred vision especially in the first few weeks of treatment.

Conclusion
Ophthalmologists need to be aware of the potential ocular side effects of topiramate. Although relatively rare prompt recognition is key so appropriate management can be instituted and visual outcomes maximised.

Abbreviation
IOP, Intraocular pressures.

Consent
The author obtained written informed consent from the patient for the publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing interests
The author declares there are no competing interests.

Author contribution
SG is the sole author of this work. SG was instrumental in the medical care of the patient, analysed and interpreted the patient data, performed the literature search and case write-up.

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