

A Rare Serious Ocular Side Effect of Topiramate: Bilateral Acute Angle Closure Glaucoma

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Abstract

Topiramate is an anticonvulsant drug which is also used for migraine prophylaxis. It has many neurological and psychiatric side effects in addition to diarrhoea and weight loss. It can cause serious ocular side effects like sudden dimness of vision secondary to acute narrow angle glaucoma and or myopia. These side-effects usually occur at more than 200 mg per day dose and after 4 to 6 weeks of starting treatment with the drug. We report a case of 20-years old female who developed sudden dimness of vision in both eyes after migraine prophylaxis with topiramate 25 mg daily for seven days. Her cause of this vision problem was secondary acute angle glaucoma and myopia because of topiramate. After stopping the drug her vision became normal within seven days. Clinicians should explain ocular side effects of topiramate and if he/she develops such visual problems, he/she should stop the drug and consult clinician immediately.

Keywords: Rare Ocular Side Effect; Topiramate.

Introduction

Topiramate is an antiepileptic drug which is also used for migraine prophylaxis, bipolar disorder and neuralgia [1]. Topiramate's common side-effects are diarrhoea, weight loss, excessive sleepiness, dizziness, cognitive and behavioural problems, suicidal thoughts, high grade fever with anhidrosis. 1-2 out of one hundred patients receiving topiramate have renal stone side effect and it is manageable with medical treatment. It rarely causes ocular side effects like acute myopia, secondary acute angle closure glaucoma (AACG), uveitis, scleritis, choroid effusion and visual field defects [2] and if not diagnosed early, it may lead to permanent Vision loss [1]. Ciliochoroidal effusion (Idiosyncratic adverse reaction of drug) leading to anterior shifting of lens iris diaphragm make anterior chamber shallow and this cause AACG. The side-effects usually occur at higher dose of 200 mg per day and after 4 to 6 weeks of treatment with drug [3-6].

Case Report

A 20-year-old female was having history of chronic recurrent unilateral throbbing headache 6 to 8 times in a month associated with nausea and photophobia since last two years. Her mother also had history of headache suggestive of migraine. She had consulted ophthalmologist before 7 days as she thought refractive error as a cause of headache but her ophthalmic examination was normal at that time. On examination her vitals and neurological examination were normal. Her headache was diagnosed as migraine headache. She was prescribed tablet Topiramate 25mg once daily for 7 days and then to step up twice daily after 7 days for prophylaxis of migraine along with tablet naproxen 500mg SOS for headache relief. After 7 days of starting Topiramate, she developed sudden dimness and blurring of vision of both eyes not associated with headache or other neurological symptoms. She consulted ophthalmologist again and he diagnosed glaucoma

as a cause for vision symptoms. He referred her to glaucoma clinic and was diagnosed uveal effusion causing myopic shift and acute angle closure glaucoma of both eyes likely because of Topiramate. Topiramate was stopped and cholinergic eye drops was prescribed for 7 days. Her vision became completely normal after 7 days and she became asymptomatic.

Discussion

Our patient developed acute angle closure glaucoma (AACG) after taking topiramate 25mg OD dose for seven days which resolved spontaneously after stopping it. Ocular side effects of topiramate are not mentioned in standard pharmacological

textbooks. By reviewing literature, it is found that Topiramate can cause serious ocular side-effects like acute angle closure glaucoma, acute myopia, suprachoroidal effusion, periorbital oedema, scleritis, oculogyric crisis. But these side effects usually occur when topiramate is given in dose of 200 mg per day or higher or after 4 to 6 weeks of treatment. In our case ocular side effect occurred at dose of 25 mg per day for seven days which is quite unusual [1-6].

Mechanism

Topiramate causes Ciliary body oedema or cilio-choroidal detachment which leads to forward rotation of ciliary body and displacement of the iris. It closes the anterior chamber angle precipitating an attack of AACG. Swelling of lens may also contribute to the shallow anterior chamber [3-6]. (Figure 1).

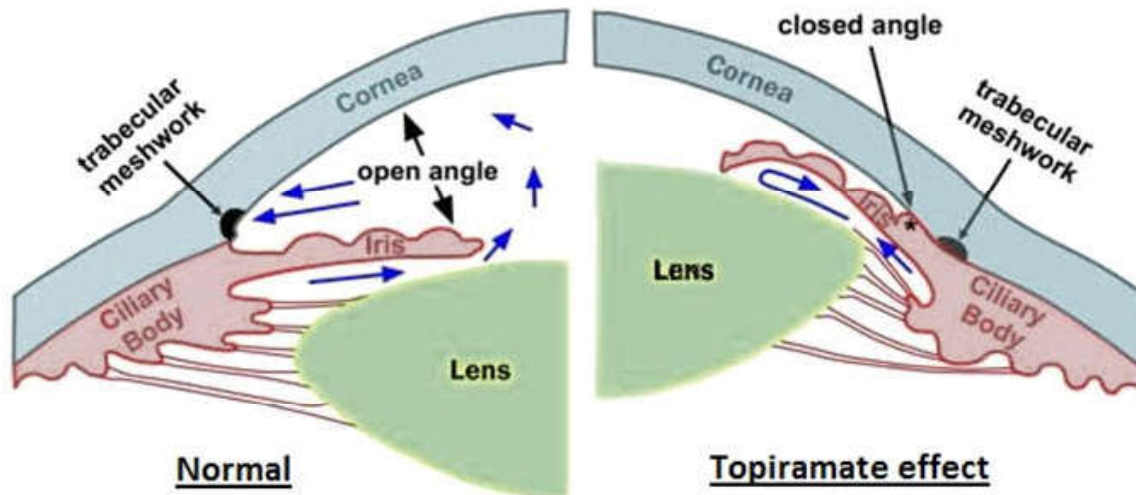


Fig. 1: Schematic Topiramate Ocular side Effects Mechanism

Conclusion

Topiramate is frequently used for migraine and epilepsy and it may cause rare ocular side effects like dimness of vision even with low dose of 25mg per day and short duration of seven days' treatment. Our patient's cause of sudden decrease in vision was likely due to topiramate induced myopia and secondary acute angle glaucoma. So clinician should counsel the patient regarding possible ocular side-effects of topiramate and should contact him immediately for any ocular symptoms. If patient is not instructed for possible ocular side effect of Topiramate patient may have to undergo extensive costly investigations for vision problem. If drug is not discontinued timely, permanent vision damage may occur.

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