A Case Report:

ANGLE CLOSURE GLAUCOMA, ACUTE ONSET OF MYOPIA AND BILATERAL FOVEAL EXUDATIVE DETACHMENT WITH TOPIRAMATE.

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Abstract:

Topiramate, used to treat various types of seizure as anti epileptic. Acute on set of myopia and angle closure are serious adverse effects particularly patients who are under treatment of Glaucoma. Exudative fovelar detachment is an additive finding in our case. In our case, topiramate is used as 100mg daily (50mg B.D.) for 1 month. The Presenting complain was sudden onset of decrease in vision for distance object along with Glare after use of this drug for 2 week. The diagnosis of myopia and narrow angle was made after examination. This was thought that these two entities were from the childhood as no concrete history of vision or any previous Eye check up record was there and his Parents were not able to give detail. Just refractive correction was made and the parents were advised to report for if any further visual changes occur.

Two weeks after the 1st visit, the patient again complains of further detoriation of vision with headache and Glare. We examined him and found there is more myopic shift, angle closure, rise in IOP and exudative foveal detachment. We stopped the drug with consultation to the treating neurologist and started Topical anti-glaucoma medication under our direct observation. After 5th day of withdrawal, there is total resolution of myopia, angle closure and exudative detachment of fovea. This report is intended for creating awareness among the ophthalmologist and other clinician for recognizing this complication and appropriate intervention.

Key words: topiramate, acute myopia, angle closure and bilateral exudative foveal detachment.

Introduction:

Topiralmate used as monotherapy or combination Therapy for various seizure disorders, migraine prophylaxis and stress disorders. It's mode of action is via sodium channel blockade, GABA path way and anti-corbonic anhydrase activity. Fatigue, somnolence, psychomotor slow down are the common adverse effect. The ophthalmic adverse effects are angle closure glaucoma, myopia, headache, supra choroidal effusion, retinal hemorrhage blepharospasm, uveitis, mydriasis.

Acute angle closure with raised IOP is one of the common ocular side effects. However bilateral foveal exudative detachment is rare.

Case Report:-

A 16yrs old boy presented to us with defective vision for distance, headache and Glare. He was with sodium valproate for partial seizure which was prescribed by his neurologist. As his seizure was not well controlled with sodium Valproate, the neurologist has added Topiramate (50gm B.D.). After 2 weeks of Topiramate, the patient came to us with his parents for above complain. We checked his refractive status and did other ophthalmic examination. The myopia -4.5D sphere was corrected with glass prescription and the Narrow angle glaucoma with IOP 28mmg Hg was treated with Dorzolamide and Timolol

ophthalmic drop and patient was advised to report after 1 week.

The patients returned after two weeks with complain of further detoriation of vision, headache and central vision defect. On examination refractive error was – 8.5 D Sphere, IOP of 30mmg of Hg and there was bilateral exudative foveal detachment.

We consulted concerned neurologist to stop topiramate and she agreed, increased the dose of sodium valproate for seizure. We observed the patient on daily basis and after 5th day of stoppage of Topiramate the refractive error became emmetropic, AC depth increased, angle opened up, IOP reduced to 11mm of Hg and foveal exudative detachment resolved completely. We withdraw the Dorzolamide and Timodol E/D. The IOP maintained on 11 mm of Hg.

We are following the patient monthly basis for 3 month and now following him every 3 monthly. He is now normal in all aspect of ophthalmic point.

Discussion:

Acute myopia, angle closure and bilateral cilliary effusion are due to topiramate, is an idiosyncratic effect. Carbonic anhydrase activity and Prostaglandin mediated effect is responsible for cillio choroidal effusion.(1,2,3) This causes the shift of lens-iris diaphragm and leads to narrow angle glaucoma and acute myopia. (2,3).There is bilateral foreal exudative detachment in our case which might be due to choroidal effusion.

Topiramate has an effect on sodium and chloride movement that can interfere with ionic concentration in various tissues, including crystalline lens. The foreal exudative detachment secondary to fluid consistent with drug induced altered membrane potential of the choroid vasculature.

Conclusion:

The anticonvulsant Topiramate uses, can result in bilateral angel closure glaucoma, myopia and foveal detachment. This is usually reversible upon discontinuation of the drug. The full visual recovery is within 2 weeks. So it is important for the treating Physician to recognize this condition, also select the patient to whom to prescribes or prescribe it with consultation of ophthalmologist (Patient under treatment for glaucoma, history of foveal disorder are under threat of further damage) and inform the patient and his relative about the ocular side effect when prescribing.

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