

## Topiramate Induced Bilateral Acute Angle Closure Glaucoma

Dr. Bharti .N.Karelia\*, Dr. Kamlesh .N. Devmurari\*\*

\*Associate Professor, Department of Pharmacology, P.D.U. Medical College, Rajkot, 360001, \*\*Pediatric Orthopedic Surgeon, Shailbey Hospital, Ahmedabad-380015

**Abstracts** Topiramate is an anti-epileptic drug commonly used for the treatment of abdominal migraine. Rare cases of acute myopia with secondary angle closure glaucoma have been reported due to topiramate therapy. An adult male was prescribed topiramate oral therapy for abdominal migraine. On the 4<sup>th</sup> day of treatment, he had blurring of vision and on ocular examination there was severe myopia, both the iridocorneal angles were closed and intraocular pressure (i.o.p) was 48mmHg. Diagnosis of drug induced bilateral acute angle closure glaucoma was made and treatment was started. Similar cases with topiramate were reported previously but it developed after 2 weeks of therapy. In our case it occurs on the 4<sup>th</sup> day of therapy. So physician should be aware of possible ocular side effects from the 1<sup>st</sup> day of therapy and to seek immediate ophthalmic investigation in the events. [Karelia B et al NJIRM 2012; 3(5) : 145-146]

**Key words:** Topiramate Abdominal migraine Angle closure glaucoma

**Author for correspondence:** Dr. Bharti .N.Karelia, Associate Professor, Department of Pharmacology, P.D.U. Medical College, Rajkot, 360001 Email: nirbharti\_karelia@yahoo.co.in

**Introduction:** Abdominal migraine is a variant of migraine headache. The pain occur in the belly, usually near the naval or midline. It frequently occurs as a reaction to a migraine trigger. It can cause severe stomach pain, nausea, abdominal cramping and often vomiting. <sup>1</sup> Anti-epileptic, anti-depressant and beta blocker medications are typical migraine preventives used for treatment of abdominal migraine. <sup>2</sup> Topiramate is a anti-epileptic drug commonly used for treatment of abdominal migraine. <sup>3</sup> Topiramate may cause visual disturbances. Rare cases of acute myopia with secondary angle closure glaucoma have been reported. <sup>4</sup>

**Case Report:** A 33-year –old man was prescribed tablet topiramate 25 mg twice a day for abdominal migraine. On the 4<sup>th</sup> day of starting medication, patient was took tablet topamac 25 mg in morning at 10.00 am and in the afternoon he complained of foreign body sensation followed by blurring of vision in the left eye and after 30 minutes right eye had same symptoms. Eye examination was done by ophthalmologist. Findings were severe myopia, marcus gun pupil and pupils not reacting to light. Then MRI brain was done to exclude any brain pathology or tumor. Again eye examination was done. Fundus was normal on fundoscscopy examination. Intra ocular pressure was 48 mmHg at that time. Slit lamp examination showed both ocular angles were closed and diagnosis was made “drug induced bilateral angle closure glaucoma”. Treatment was given for glaucoma. Topiramate

therapy was discontinued, tablet diamox 2 tablet stat, glycerol 30 ml orally and injection manitol followed by tablet diamox twice daily and glycerol 30 ml orally for 5 days. On the 3<sup>rd</sup> day of follow up intra ocular pressure was measured and it was 28 mmHg. On the 6<sup>th</sup> day of follow up detailed eye examination was done and findings were vision became clear, no blurring, no myopia, no residual deformity and intra ocular pressure and both angles were normal. Only precaution is do not take tablet topiramate.

**Discussion:** The patient had no history of constraining factor or drug that increase the risk of acute angle closure glaucoma. Causality of acute angle closure glaucoma by topiramate was assessed by Naranjo’s criteria and this ADR was probable. <sup>5</sup>

Topiramate is a sulfamate substituted monosaccharide and several mechanisms elicit its antiseizure effect, one of them is weak inhibition of carbonic anhydrase enzyme. <sup>6</sup> The following side effect have been reported with topiramate like decrease visual acuity, ocular pain, hyperemia, increase i.o.p with or without mydriasis, choroidal effusion resulting in anterior displacement of lens and iris. There have been rare reports of acute myopia with secondary angle closure glaucoma in adults and children receiving topiramate as of April 2002 the CSM in the UK was aware of 23 cases worldwide. <sup>4</sup> Sorkhabi R et al. described a 35-year-old-woman with topiramate associated glaucoma

that included elevated i.o.p and her visual acuity was 20/30 ocular uterque. <sup>6</sup> Sachi D et al. reported a 33-year-old woman with topiramate induced secondary angle closure glaucoma. <sup>7</sup> Symptoms of ocular hypertension typically occur within 1 month of initiating topiramate therapy. <sup>8</sup> In most reported cases of such condition, it start developing after 2-3 weeks of therapy. In our case, important thing was that patient was developed glaucoma on the 4<sup>th</sup> day of topiramate therapy. It is therefore suggested that physicians should be aware of the possible ocular side effects from the 1<sup>st</sup> day of initiating topiramate therapy. It is also important to advise the patient about the possibility of blurred vision, eye pain or headache and the need to seek immediate ophthalmic investigation in the events.

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