Case Report

Acetazolamide-Induced Ciliochoroidal Effusion In A Patient With Pseudoexfoliation Glaucoma

Marushka Aguiar[1], Naomi Desiree D'Costa[2], Ugam, P.S. Usgaonkar[1]

[1] Department of Ophthalmology, Goa Medical College and Hospital, Bambolim, Goa, India.
[2]Department, of Ophthalmology, Sub-district hospital, Chicalim, Goa, India.

Abstract

Aim: *We describe a male patient, with Pseudoexfoliation glaucoma who developed bilateral ciliochoroidal effusions after Acetazolamide ingestion.*

Observations: *Our patient was referred from a local health centre with history of ocular pain, redness and headache following ingestion of acetazolamide. Clinical examination suggested Angle closure glaucoma. A B-scan ultrasound confirmed the bilateral ciliochoroidal effusions. He was treated by omission of acetazolamide and started on appropriate management. Two weeks later, the bilateral ciliochoroidal effusions and acute angle closure were resolved.*

Conclusion: *To the best of our knowledge, drug-induced bilateral ciliochoroidal effusion syndrome has not been reported with acetazolamide in Pseudoexfoliation syndrome.*

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Keywords: *Acetazolamide, Uveal Effusion, Pseudoexfoliation.*

Introduction

Acetazolamide and other sulfa drugs have been documented to cause, very rarely, idiosyncratic reactions characterized by transient myopia, ciliary body edema, uveal effusions, and anterior rotation of the lens-iris diaphragm, which causes secondary angle-closure glaucoma (ACG).[1]

The angle closure occurs without pupillary block, so topical miotics and peripheral iridectomy are not helpful.[2] Instead, stopping the offending agent and controlling the intraocular pressure (IOP) and inflammation with the administration of appropriate drugs allows rapid resolution of signs and symptoms.

There have been a few bilateral cases reported after acetazolamide following monocular cataract surgery.[3,4,5,6]

We present a case of bilateral ciliochoroidal effusion syndrome after exposure to acetazolamide in a patient with chronic open angle glaucoma secondary to pseudoexfoliation, with a cataractous lens and without any prior ocular surgery.

Case Report

A 62 year old male was referred to our hospital with history of ocular pain and redness of both eyes since 1 day.

Patient complained of sudden onset decreased vision in the left eye also since one day and decreased vision in the right eye since many years which had been progressive and painless.

He gave history of being routinely evaluated at an Ophthalmology OPD at a local health centre and was found to have a high IOP (Documented as OD 40 mm Hg and OS 24 mm Hg) for which patient was prescribed topical combination of Timolol Maleate 0.5% + Brimonidine Tartarate 0.2% and oral Acetazolamide 250mg twice a day and asked to follow up the next day, when he developed the above symptoms.

Patient was not on any medication prior to this. On examination BCVA was No Light perception OD and 20/80 OS. The right eye showed a Relative Afferent pupillary defect.

Slit-Lamp examination revealed conjunctival congestion, minimal corneal edema in both eyes, shallow anterior chambers (Van Herrick Grade 1), pseudoexfoliative material was seen at pupillary margin in right eye, no rubeosis iridis and mild nuclear sclerosis in both eyes.

Intraocular pressure was noted to be 40 mm Hg OD and 36 mm Hg OS (Figure 1 and 2). Gonioscopy was attempted and showed appositional closure 360 degrees in both eyes. Fundus examination showed a choroidal detachment in both eyes. ONH cupping was total glaucomatous atrophy

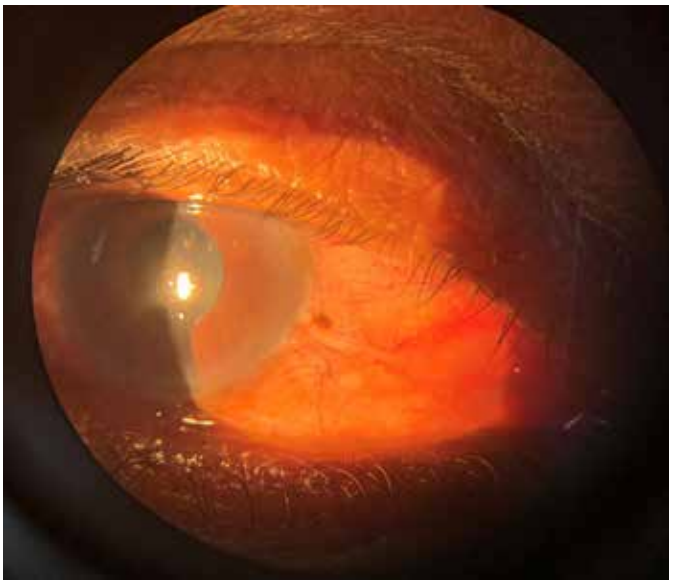

Figure 1: *Right eye at presentation with corneal edema, shallow anterior chamber and PXF material at pupillary margin*

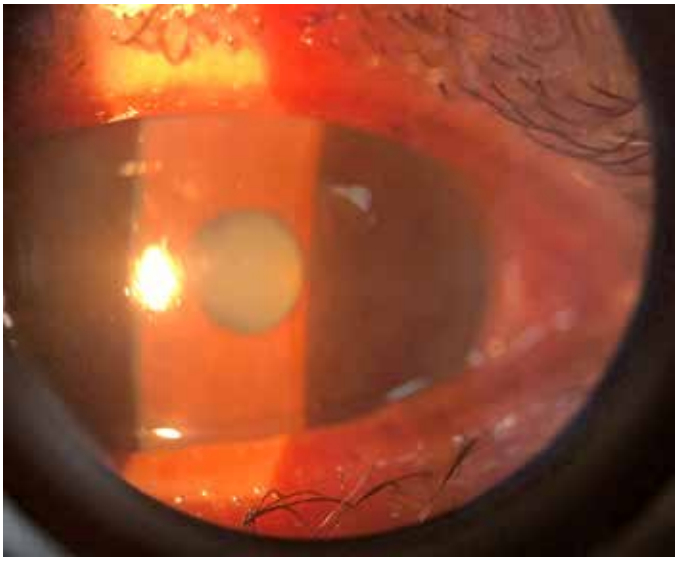

Figure 2: *Left eye at presentation with corneal edema and shallow anterior chamber*

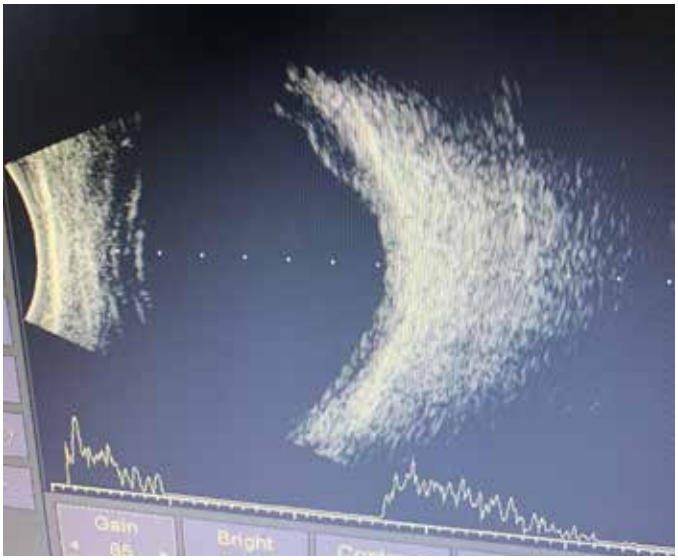

Figure 3 : *Right eye at presentation with corneal edema, shallow anterior chamber and PXF material at pupillary margin*

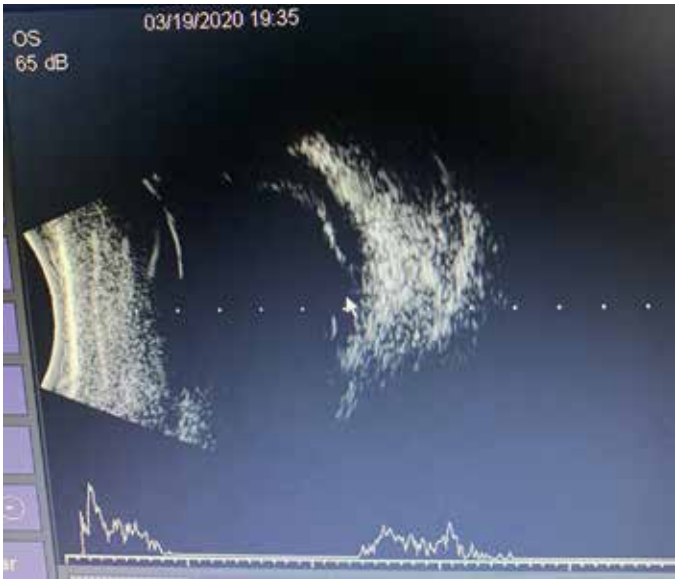

Figure 4: *B-scan of Left eye showing ciliochoroidal effusion*

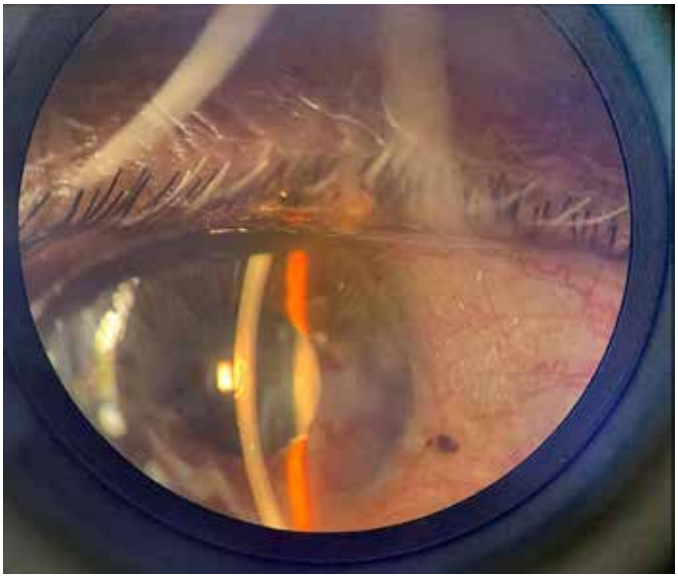

Figure 5: *Right eye after 4 days with clear cornea, deep anterior chamber and PXF material at pupillary margin*

in the right eye and CDR 0.7 in the left eye with superior thinning of neuroretinal rim. B-scan Ultrasound confirmed the choroidal detachment (Figure 3 and 4).

We admitted the patient and treated as secondary angle closure glaucoma. Acetazolamide was discontinued. Patient received IV Mannitol 2mg/kg and was on Prednisolone 1% eye drops QID, Atropine 1% eye drops TDS, Timolol 0.5%+Brimonidine 0.2% eye drops BD.

After four days, patient showed symptomatic improvement. Anterior chamber depth was normal (Van Herrick Grade 4) with 360 degree open angles on gonioscopy. Intraocular pressures were maintained at 12 mm Hg and 10 mm Hg (Figure 5 and 6).

Patient was discharged with tapering of steroids. We converted shifted from Atropine 1% to Tropicamide 1% order to maintain a mobile pupil and help in cycloplegia which was continued for two weeks.

When he followed up to in our OPD after two weeks, ciliochoridal effusion had resolved (Figure 7 and 8). He was advised lifelong use of Travoprost 0.004% eye drops HS for his left eye with routine follow up.

The visual acuity of the left eye improved to 20/80. Perimetry and OCT-ONH were attempted but were unsuccessful as the patient was uncooperative for both.

Discussion

Acetazolamide-induced bilateral transient myopia, acute ACG, and choroidal effusion have been reported in non-glaucomatous cases.[7,8] The occurrence in only a few patients taking the drug suggests an idiosyncratic reaction of the uvea with an expansion of the extravascular compartment,

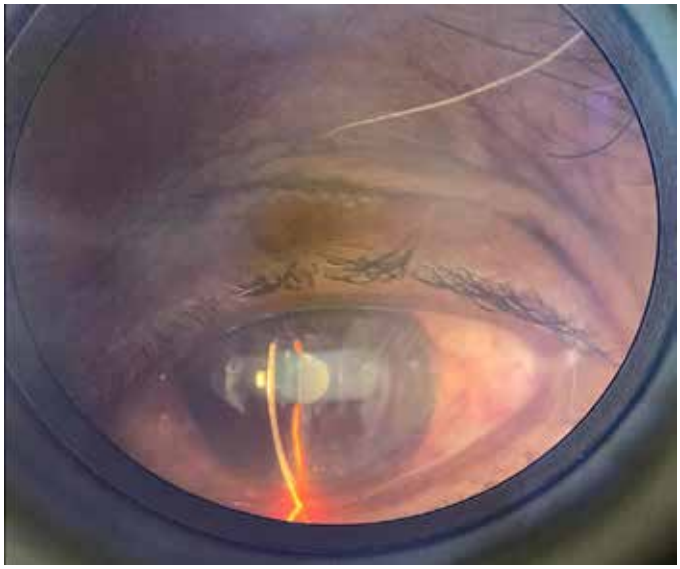

Figure 6: *Left eye after 4 days with clear cornea and deep anterior chamber.*

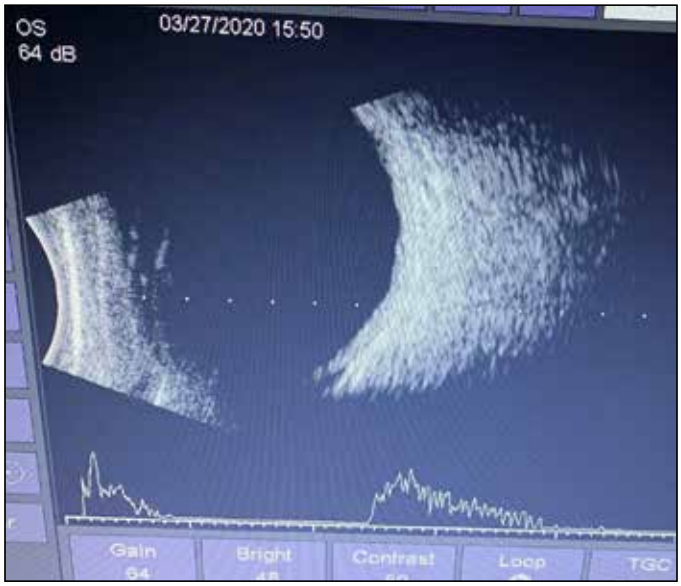

Figure 8: *B-scan of Left eye showing resolution of ciliochoroidal effusion at follow-up.*

due perhaps to a sudden breakdown of the blood-ocular barrier to large proteins.[9]

Few cases of acute secondary ACG with choroidal effusion and anterior shift of the lens-iris diaphragm have been associated with acetazolamide compared with other sulfonamides.[10] Most of these reported bilateral cases have been seen following cataract surgery.

Atilla Bayer and Sayoko.E.Moroi reported a case of ciliochoroidal effusion where a patient received Intravitreal injection Bevacizumab for treatment of diabetic macular edema in his right eye and was prescribed Tablet Acetazolamide to prevent anticipated rise in intraocular pressure and he presented with symptoms within a few hours. Another case is reported as Acetazolamide induced bilateral choroidal effusion syndrome in plateau iris configuration.[11]

The only case of ciliochoroidal effusion reported in relation

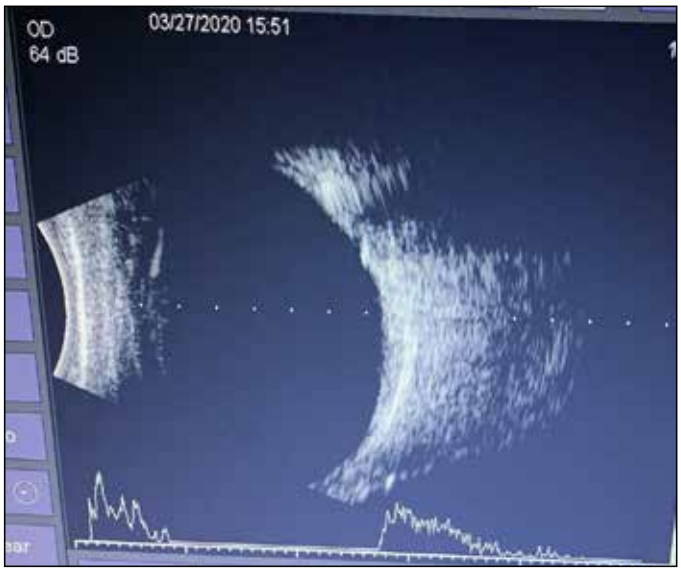

Figure 7: *B-scan of Right eye showing resolution of ciliochoroidal effusion at follow-up.*

to pseudoexfoliation glaucoma has been one following trabeculectomy in a 70 year old male with pre-existing Pseudoexfoliation glaucoma glaucoma.[12]

To the best of our knowledge, this is the only case of Acetazolamide-induced ciliochoroidal effusion in a patient with Chronic Open angle Glaucoma secondary to Pseudoexfoliation syndrome.

Conclusion

Ophthalmologists should be extremely careful about prescribing Acetazolamide. Though in certain cases like these, it is difficult to decide, as the patient was one-eyed and high intraocular pressures could further compromise his already compromised optic nerve head. Risks vs benefits should be assessed and patient should be made aware of warning signs and symptoms.

Also, we should be able to correctly make a clinical diagnosis and differentiate between primary acute ACG and this rare secondary pharmacological adverse reaction by obtaining an accurate case history so that the offending agent can be stopped as soon as possible.

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Address for correspondence

Marushka Aguiar
Senior Resident MS Ophthalmology
Department of Ophthalmology,
Goa Medical College and Hospital,
Bambolim, Goa, India.
Email: marushka.aguiar@gmail.com

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