

A case of posterior ciliary artery occlusion following pneumatic reposition of the Descemet membrane

*Alok C Sen, Gaurav M Kohli, Ashish Mitra,
Pawan P Malhotra*

Key words: Air descemetopexy, descemetopexy, descemetopexy complications, posterior ciliary artery occlusion

Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_1273_18

Department of Vitreo-Retina, Sadguru Netra Chikitsalaya, Chitrakoot, Madhya Pradesh, India

Correspondence to: Dr. Alok C Sen, Department of Vitreo-Retina, Sadguru Netra Chikitsalaya, Chitrakoot, Madhya Pradesh - 210 204, India. E-mail: draloksen@gmail.com

Manuscript received: 13.08.18; Revision accepted: 26.11.18

Case Report

A 60-year-old, non-diabetic, non-hypertensive female presented to us a day after undergoing pneumatic air descemetopexy for postoperative planar inferior Descemet membrane (DM) detachment [Fig. 1] in the left eye (LE). DM reposition was performed using air under peribulbar anesthesia. The intraocular pressure (IOP) measured in the LE at 12 h was 18 mmHg, with a blood pressure of 110/70 measured preoperatively.

About 24 h post-descemetopexy, the vision dropped to light perception (PL). Anterior segment was unremarkable with residual air bubble. Fundus examination showed a tongue-shaped area of patchy retinal whitening involving peripapillary and macular territory [Fig. 2]. The fundus fluorescein angiography (FFA) showed a normal arm-to-retina time with areas of segmental hyperfluorescence having fuzzy margins, corresponding to the areas of retinal whitening [Fig. 3a].

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

Cite this article as: Sen AC, Kohli GM, Mitra A, Malhotra PP. A case of posterior ciliary artery occlusion following pneumatic reposition of the Descemet membrane. Indian J Ophthalmol 2019;67:392-4.

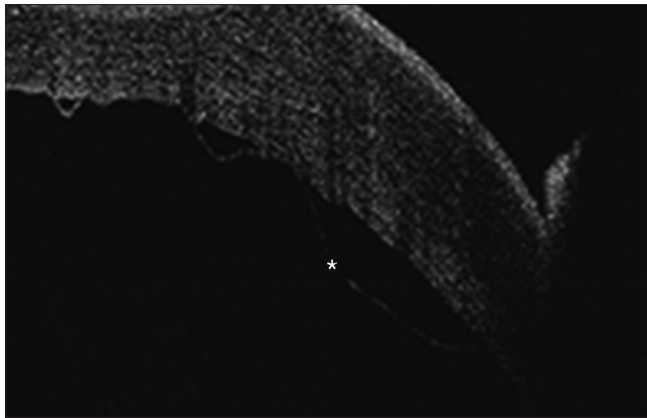


Figure 1: Anterior segment optical coherence tomography shows presence of planar Descemet membrane detachment



Figure 3: (a) Areas of segmental hyperfluorescence having fuzzy margins, corresponding to the areas of retinal whitening*. (b) Optical coherence tomography revealed increased reflectivity of the outer-retinal layers. A hyperreflective line separated the inner layers from the outer layers*, suggestive of photoreceptor swelling and ischemic injury to outer-retinal layers

The optical coherence tomography (OCT) revealed an increased reflectivity of the outer retinal layers [the retinal pigment epithelium (RPE) and the photoreceptor layer] along with a thickened outer plexiform layer [Fig. 3b]. A hyperreflective line separated the inner layers from the outer layers, suggestive of photoreceptor swelling and ischemic injury to outer-retinal layers. The inner-retinal layers were well segmented and unremarkable.

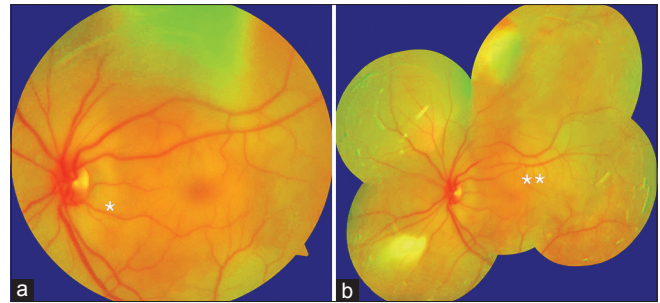


Figure 2: A tongue-shaped area of retinal whitening was present around the disc* and involving the macula** following decemetopexy, this corresponded to the watershed zone



Figure 4: (a) An area of retinal pigment epithelium (RPE) atrophy developed subsequently in the zone of previous retinal whitening*. (b) Optical coherence tomography showed outer-retinal thinning with loss of photoreceptor layer, accompanied with RPE hyperreflectivity*

Based on the clinical picture, FFA, and OCT findings a diagnosis of LE posterior ciliary artery occlusion (PCAO) was made. FFA repeated at 1 week showed transmitted hyperfluorescence. OCT showed outer-retinal thinning with loss of photoreceptor layer, accompanied with RPE hyperreflectivity [Fig. 4].

Discussion

PCAO is a rare vascular accident, often caused by embolization from the internal carotid artery or by external compression.^[1,2] The choroidal vascular bed can maintain a constant perfusion

pressure despite the change in IOP and blood pressure. Since the autoregulatory facility of the choroid compensates better for variation in mean perfusion pressure than for IOP fluctuations,^[3] a transient rise in IOP following air descemetopexy can overwhelm an already compromised choroidal flow.^[4]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Moshfeghi D, Lowder C, Roth D, Kaiser P. Retinal and choroidal vascular occlusion after posterior sub-tenon triamcinolone injection. *Am J Ophthalmol* 2002;134:132-4.
2. Hu X, Hu J, Wu P, Yu S, Kikkawa D, Lu W. Posterior ciliary artery occlusion caused by hyaluronic acid injections into the forehead. *Medicine (Baltimore)* 2016;95:e3124.
3. Polska E, Simader C, Weigert G, Doelemeyer A, Kolodjaschna J, Scharmann O, *et al.* Regulation of choroidal blood flow during combined changes in intraocular pressure and arterial blood pressure. *Invest Ophthalmol Visl Sci* ;48:3768-74.
4. Rock D, Bartz-Schidmt K, Rock T, Yoeruek E. Air bubble-induced high intraocular pressure after Descemet membrane endothelial keratoplasty. *Cornea* 2016;35:1035-9.