# Inadvertent rupture of iridociliary cyst following transscleral Diode laser

*Nikhil S Choudhari, Gangaprasad M Amula, Aditya Neog*

Primary iridociliary cysts can induce plateau iris configuration and angle closure glaucoma. We report a patient with bilateral, primary, ring-shaped, solitary iridociliary cysts. The right eye displayed normal intraocular pressure, oppositional iridocorneal angle closure, and healthy optic nerve head. The left eye had advanced chronic angle closure glaucoma. The management strategy varied between eyes and is discussed. This, to the best of our knowledge, is the first report of transscleral Diode laser application in an eye with a large iridociliary cyst.

**Key words:** Angle closure glaucoma, iridociliary cyst, laser cyclophotocoagulation

Primary iridociliary cysts can push the iris root anteriorly, causing a (pseudo) plateau iris configuration with or without angle closure glaucoma.[1-3] Only a single case of unilateral, solitary, ring-shaped iridociliary cyst presenting with acute angle closure has been reported.[4] Here, we present a patient with bilateral, primary, ring-shaped, solitary iridociliary cysts. There was a marked inter-eye asymmetry as regarding intraocular pressure (IOP), iridocorneal angle, and optic nerve head. These differences were found despite similar appearance of the iridociliary cysts on ultrasound biomicroscopy (UBM).

Access this article online

Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/0301-4738.109382

Medical Research Foundation, Sankara Nethralaya, Chennai, India

Correspondence to: Dr. Nikhil S. Choudhari, Medical Research Foundation, Sankara Nethralaya, 18, College Road, Chennai - 600 006, India. E-mail: nkl164@gmail.com

Manuscript received: 06.12.10; Revision accepted: 12.04.12

## Case Report

A 56-year-old male presented with chronic on and off pain in the left eye. Other components of medical history were unremarkable. His systemic examination revealed multiple subcutaneous tumors in distal upper limbs and more than 6 *café-au-lait* macules; but all were <15 mm in diameter. His vision was 20/30 in right eye and counting fingers at 3 feet in left eye. The peripheral anterior chamber was shallow in both eyes. Irises had no nodule. Applanation tonometry readings were 13 mm Hg and 50 mm Hg in right and left eye, respectively. Dark-room gonioscopy showed appositional closure of the drainage angle with multiple peripheral iris convexities in the right eye and 360° synechial angle closure in the left eye. UBM presented a ring-shaped solitary iridociliary cyst spanning 360° in the right and 270°, sparing nasal quadrant, in the left eye. The cysts had hyper-reflectile walls and sonolucent interiors, suggestive of primary neuroepithelial cysts [Fig. 1].

We did Nd:YAG laser iridotomy, peripheral to the collarette of the right iris at 8 o'clock hour where the diameter of the cyst was narrowest on UBM to avoid cyst rupture [Fig. 2]. Post iridotomy, the angle recess was narrow, but the scleral spur was visible all around on dark-room gonioscopy in the right eye. The right optic disc was healthy, and the left had advanced glaucomatous cupping [Fig. 3]. An UBM confirmed patency of the angle recess in the right eye [Fig. 4a]. Magnetic resonance imaging of brain and orbits was unremarkable, except for a diffuse T2 hyperintense signal in the left optic nerve. Antiglaucoma medications were started in the left eye.

The left eye was painful despite maximum antiglaucoma medications. This eye underwent G-probe assisted inferior 180° contact transscleral Diode cyclophotocoagulation (810 nm laser; Iridex Corporation, CA, USA). Post procedure, severe inflammation of the anterior chamber and neovascularization of the iris occurred, which resolved gradually with steroid and cycloplegic eye drops. The cataract in the left eye progressed to maturity. The IOP in the

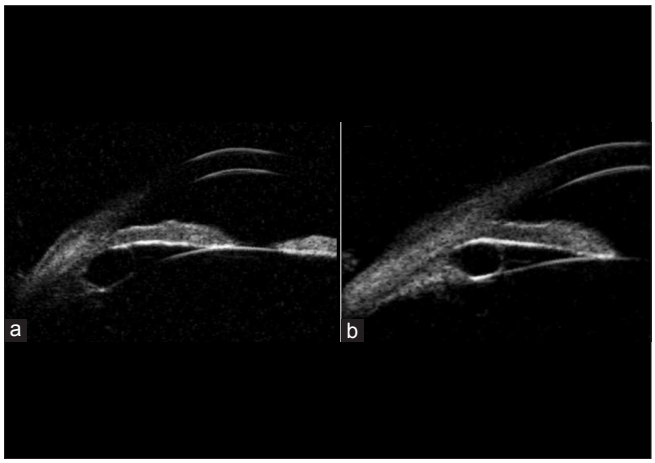


**Figure 1:** Ultrasound Biomicroscopy showing iridociliary cyst in right (a) and left (b) eye

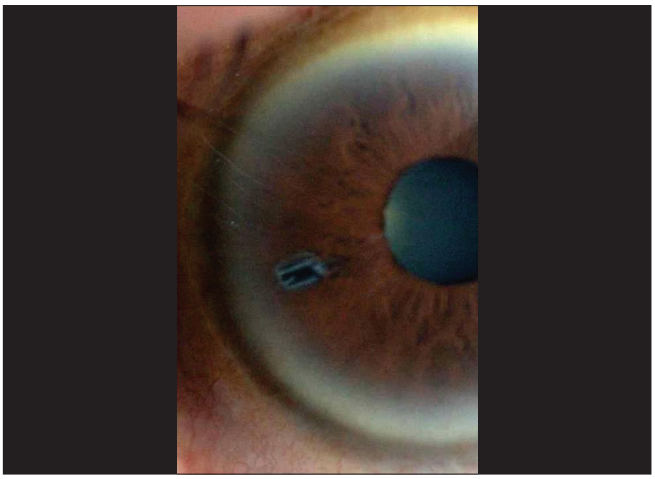

**Figure 2:** Laser iridotomy in right eye. Note its atypical location at 8 o'clock hour

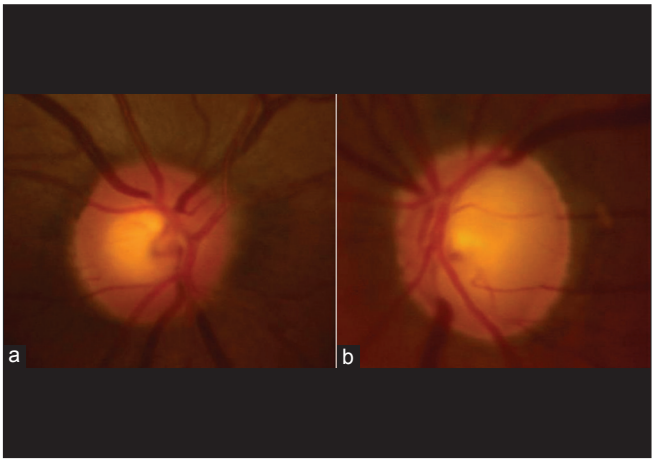


**Figure 3:** Optic Disc photographs of right (a) and left (b) eye

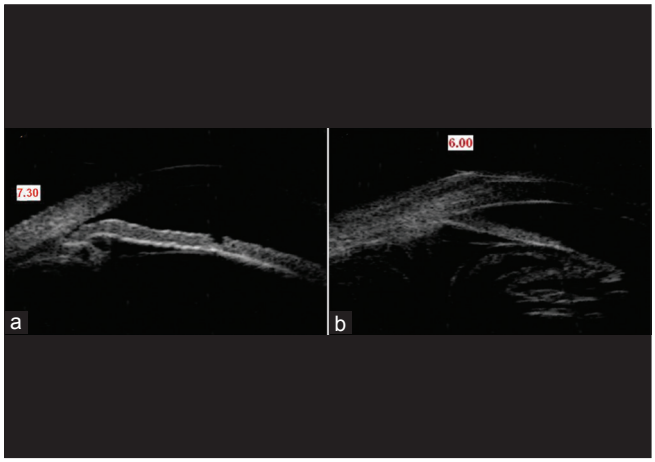


**Figure 4:** Ultrasound Biomicroscopy of Right (a) and Left (b) eye. The biomicroscopic section is partially passing through the iridotomy in Right eye. Note narrow but open angle recess in A and absence of iridociliary cyst in B

left eye remained between 40 and 48 mm Hg though the patient was pain-free. On repeat UBM, the inferior ciliary processes were shrunken, but the cyst was no longer imaged [Fig. 4b]. Other UBM, 3 months later, did not show recurrence of the cyst.

## Discussion

Primary iridociliary cysts, in the majority, are stationary lesions located focally and rarely cause visual complications.[1] Angle closure, secondary to iris and ciliary body cysts, is related to the forward bulk of the iris cyst and occlusion of the posterior chamber and is scarcely reported.[1-3] A postulated mobility of the ring-shaped iridociliary cyst during movements of the pupil might make an additional contribution to the angle closure. [4] Absolute glaucoma, as in the left eye of our patient, is not attributed to iris or ciliary body pigment epithelial cyst(s) in the past.

Except for a single report of 7 members of a family with familial aortic dissection and having pupillary margin iris pigment epithelial cysts,[5] no relation of primary cysts of iris or ciliary body epithelium to any systemic disease has been reported. The clinical features of our patient were insufficient to meet the diagnostic criteria of Neurofibromatosis (NF)- 1.[6] The differential diagnoses were *forme fruste* of NF or Schwannomatosis. Nevertheless, iris pigment epithelium cyst is formed by separation of the 2 layers of epithelium and cannot be explained by the pathogenesis of NF.[6]

Iridociliary laser cystotomy with sequential argon and Nd:YAG laser has been reported.[7] Laser iridocystotomy when the cyst could not be visualized in mydriasis by gonioscopy is also reported.[8] This treatment results in pigment dispersion, and carries the potential risk of inflammation and cyst recurrence.[7,8] Argon laser iridoplasty has recently been described as a safe[9,10] and effective[10] alternative. However, laser iridotomy did suffice to relieve oppositional angle closure in the right eye of our patient [Fig. 4a]. The continued growth of right lens in time may push forward the iridociliary cyst. He is under periodic follow-up.

We addressed intractable raised IOP in the left eye with Diode cyclophotocoagulation. The treatment resulted in inadvertent iridociliary cyst rupture with no troublesome sequel over the follow-up. Thus, cyst rupture is a potential complication of Diode cyclophotocoagulation in eyes with large iridociliary

cyst(s). One should anticipate and warn the patient of the resultant severe inflammation.

## References


1. Lois N, Shields CL, Shields JA, Mercado G. Primary cysts of the iris pigment epithelium. Clinical features and natural course in 234 patients. Ophthalmology 1998;105:1879-85.
2. Tanihara H, Akita J, Honjo M, Honda Y. Angle closure caused by multiple, bilateral iridociliary cysts. Acta Ophthalmol 1997;75:216- 7.
3. Azuara-Blanco A, Spaeth GL, Araujo SV, Augsburger JJ, Terebuh AK. Plateau iris syndrome associated with multiple ciliary body cysts. Report of three cases. Arch Ophthalmol 1996;114:666-8.
4. Bron AJ, Wilson CB, Hill AR. Laser treatment of primary ring-shaped epithelial iris cyst. Br J Ophthalmol 1984;68:859-65.
5. Lewis RA, Merin LM. Iris flocculi and familial aortic dissection. Arch ophthalmol 1995;113:1330-1.
6. Ferner RE. Neurofibromatosis 1 and neurofibromatosis 2: A twenty first century perspective. Lancet Neurol 2007;6:340-51.
7. Xiao Y, Wang Y, Niu G, Li K. Transpupillary argon laser photocoagulation and Nd:YAG laser cystotomy for peripheral iris pigment epithelium cyst. Am J Ophthalmol 2006;142:691-3.
8. Kuchenbecker J, Motschmann M, Schmitz K, Behrens-Baumann W. Laser iridocystotomy for bilateral acute angle-closure glaucoma secondary to iris cysts. Am J Ophthalmol 2000;129:391-3.
9. Ang GS, Bochmann F, Azuara-Blanco A. Argon laser peripheral iridoplasty for plateau iris associated with iridociliary cysts: A case report. Cases J 2008;1:368.
10. Crowston JG, Medeiros FA, Mosaed S, Weinreb RN. Argon laser iridoplasty in the treatment of plateau-like iris configuration as result of numerous ciliary body cysts. Am J Ophthalmol 2005;139:381-3.


**Cite this article as:** Choudhari NS, Amula GM, Neog A. Inadvertent rupture of iridociliary cyst following transscleral Diode laser. Indian J Ophthalmol 2013;61:124-6.

**Source of Support:** Nil, **Conflict of Interest:** None declared.