Inadvertent rupture of iridociliary cyst following transscleral Diode laser

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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.10 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).

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-reflective 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

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Manuscript received: 06.12.10; Revision accepted: 12.04.12
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 cysts.
cyst(s). One should anticipate and warn the patient of the resultant severe inflammation.

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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.

Vertical fixation with fibrin glue-assisted secondary posterior chamber intraocular lens implantation in a case of surgical aphakia

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We report the first case of vertical fixation by fibrin glue-assisted secondary posterior chamber intraocular lens implantation in a case of surgical aphakia. Advantages of vertical fixation are discussed.

Key words: Fibrin glue, secondary IOL implantation, vertical fixation

We report the first case of secondary intraocular lens (IOL) implantation in which vertical fixation of haptics of a 3-piece foldable IOL with fibrin glue was performed with successful outcome in a case of surgical aphakia. Advantages and rationale of using vertical fixation are discussed.

Case Report

A 55-year-old female patient presented to us on November 18, 2010. She had been operated in the left eye 5 years back elsewhere for cataract surgery. She was diabetic since 2 years and hypertensive since 11 years, controlled on treatment.

On examination the right eye had vision of 6/9 with -4.75 D Sphere and N6 with add of +3D. Left Eye was 6/12 with +8 D Sphere and N8 with +3 D add. Right eye showed a clear lens while left eye was aphakic with no capsule seen and intact vitreous face. Intraocular pressure (IOP) was 14 mm Hg right eye and 16 mm Hg left eye on applanation tonometry. Gonioscopy revealed open angles grade 4 in both eyes. Fundus examination showed myopic degenerative changes at macula with attached retina.

IOL Master (Version 5, Zeiss, Germany) readings were as follows. K1 45.61D @ 80°, K2 46.49D @ 170°, AL 24.81mm, IOL power +14 D (A constant 118.4).

The patient was operated for vertical glued secondary IOL implantation with temporal clear corneal incision and anterior vitrectomy.

Anesthesia

The surgery was performed with topical 0.5% Proparacaine (Sunways, Ahmedabad, India) and subtenons injection of preservative free 1% Lignocaine (Oculan, Sunways, India). After instillation of topical proparacaine, superonasal conjunctiva was cauterized and then conjunctiva and tenons were opened with sharp scissors. Two cc of 1% preservative free lignocaine was injected in the superonasal quadrant.

Surgical technique

A radial keratotomy marker was used to mark 2 diagonally opposite points exactly 180 degrees apart at 12 and 6 O’clock. The conjunctiva was opened at the limbus and dissected to expose sclera adequately. A crescent knife was used to

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Manuscript received: 15-07-2011; Revision accepted: 20-12-2011
