

Primary Iris Stromal Cyst Presenting As Acute Secondary Angle Closure Glaucoma Treated with ND:YAG LASER Peripheral Iridotomy — A Rare Occurrence

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Abstract

A 25 year old male presented with pain, redness, sudden loss of vision in left eye with features of acute angle closure glaucoma. Ultrasound biomicroscopy showed a large single iris stromal cyst occupying the anterior chamber covering the pupil. ND:YAG laser iridotomy was done. Intraocular pressure became normal and vision improved to 6/9-. Iridocyclitis can occur in the natural course of the stromal cyst producing sudden enlargement of the cyst leading to pupillary block. To the best of our knowledge, no case has been published with large stromal cyst presenting as acute angle closure glaucoma secondary to pupillary block.

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Introduction

Primary iris cysts are relatively uncommon. There are two types of iris cysts viz. epithelial and stromal. Primary cysts do not have recognizable etiology. Stromal cysts are extremely rare. They are usually unilateral, large and have a clear anterior wall with densely pigmented posterior wall containing clear fluid. Iris cysts can be diagnosed by ultrasound biomicroscopy (UBM) or anterior segment Optical Coherence Tomography.

Case Report

A 25 year old male patient presented to our emergency OPD with pain and sudden loss of vision in left eye since one day. Previously diagnosed to have a primary stromal iris cyst at the age of seven years, he was advised excision of the cyst five years back but no treatment was taken. There was no prior history of trauma or surgery.

On examination, vision in right eye was 6/6 and in left eye was hand movements. Intraocular pressure (IOP) in right eye was normal and left eye was very high. Immediately he was given oral glycerol after which the pain subsided and IOP of 60 mmHg was recorded in left eye.

On slit lamp examination, right eye was normal. Left eye showed circum-corneal congestion, diffuse corneal edema with inferior corneal opacity and band keratopathy. A single large irregular opaque iris cyst was seen occupying the anterior chamber and touching the endothelium of cornea inferiorly with shallow anterior chamber superiorly (Figure 1). Fundus was normal in right eye and left eye had no view. B-scan was normal in left eye. Ultrasound biomicroscopy showed a smooth, thick walled cystic swelling of iris with anechoic lumen measuring 7.17 mm length and 2.44 mm width (Figure 2). Right eye gonioscopy showed open angles but left eye could not be done as the patient was uncooperative.

A provisional diagnosis of acute pupillary block secondary to primary iris stromal cyst was made. ND:YAG laser peripheral iridotomy (PI) was done superiorly with 5 mj

single shot. Anterior chamber (AC) deepened superiorly and intraocular pressure reduced to 25 mm Hg (Figure 3). The patient was started on topical steroids and antiglaucoma drugs.

After two weeks, vision improved to 6/9 and IOP was 13 mm Hg in left eye. Left eye gonioscopy showed open angles; temporal and nasal quadrants revealed dense pigmentation. Superior and inferior angles were not seen due to corneal opacity and cyst. The axial length of right eye was 23.76 mm and left eye-23.89 mm; keratometry - 42.35mm/43.27mm in right eye and 41.77 mm/44.35 mm in left eye; AC Depth



Figure 1: Slit lamp photo of left eye showing flat anterior chamber with iris bombe superiorly at presentation

was 3.30 mm in right eye (not recordable in left eye). Slit lamp examination showed cyst occupying lower half of the anterior chamber merging with lower half of the pupil. Anterior chamber was optically clear with normal clear lens. Fundus was normal with healthy disc with cup disc ratio of 1:3 in left eye. Topical prednisolone drops were continued twice per day. With a follow up of 6 months, the eye remained quiet with 6/9 vision and normal intraocular pressure (Figure 4).

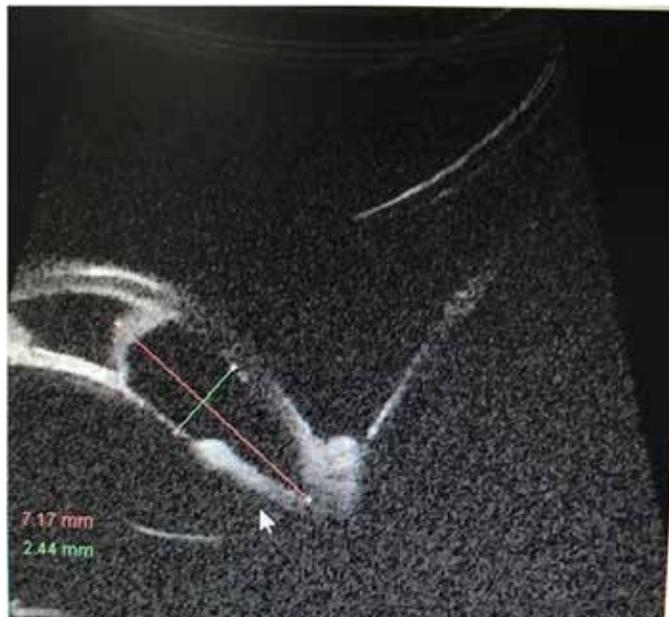


Figure 2: Ultrasound biomicroscopy of iris cyst before NDYAG PI

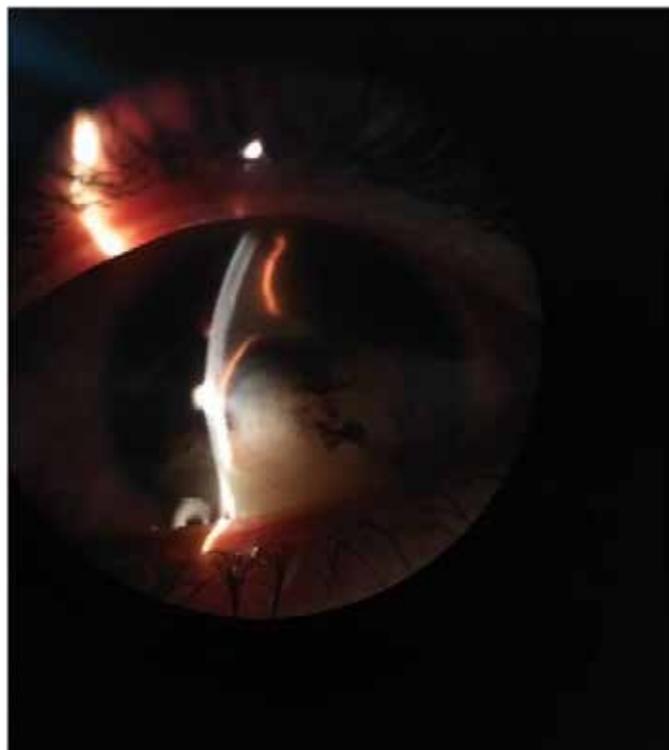


Figure 3: Slit lamp photo of left eye showing well formed anterior chamber after NDYAG peripheral iridotomy

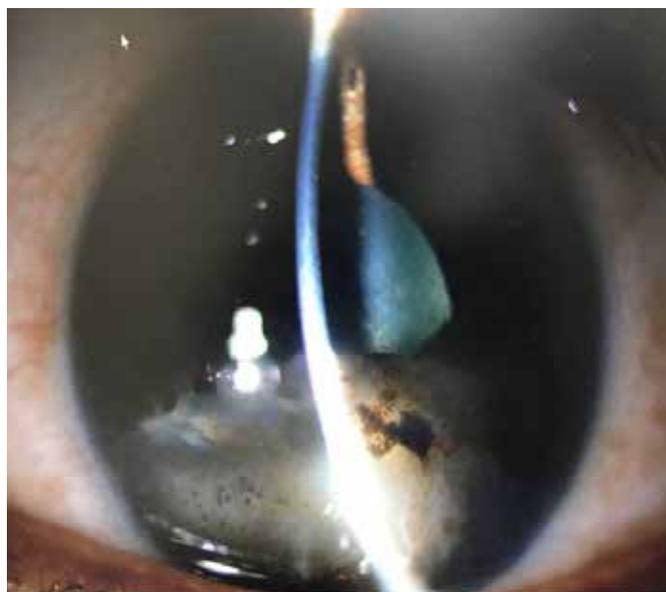


Figure 4: At 6 months followup

Discussion

Primary stromal iris cysts account for 16% of all childhood iris cysts², usually unilateral, are seen in younger age and have a tendency to enlarge progressively. They present as a solitary, clear lesion mostly in left side. Our case was a primary stromal cyst diagnosed at the age of 7 years, slowly enlarged and presented with an acute rise of IOP due to sudden enlargement of cyst secondary to iridocyclitis.

These cysts are lined by surface epithelium containing goblet cells. Stromal cysts arise from entrapped surface ectoderm in the iris during formation of lens vesicle.⁷

Duke-Elder described the natural course of the primary stromal cysts⁹:

- Stage 1** - Symptom-free period with no discomfort or visual disturbance.
- Stage 2**- Irritative period in which iridocyclitis may develop.
- Stage 3**- Period of raised tension which may result in absolute glaucoma.

Many treatment modalities are described. If the cyst is small and asymptomatic, simple observation is sufficient. Best treatment for iris cyst is not yet described. Excision/ aspiration of the cyst, aspiration and injecting absolute alcohol or mitomycin C into the cyst⁸, aspiration of the cyst and cryotherapy or electrolysis³, shrinkage of the cyst with ND:YAG laser or Argon laser (non-invasive) are various available modalities for treating the cyst. Usually, multiple small epithelial cysts are treated with lasers. Large stromal cyst can also be treated with laser to collapse the cyst without any complications.⁵

Conclusion

Primary iris stromal cyst usually enlarges with age covering the pupil and obstructs the visual axis. Iridocyclitis may develop as a natural course of the cyst during which the

cyst may enlarge suddenly and produce pupillary block glaucoma which can be relieved by ND:YAG Iridotomy. As the severity of iridocyclitis reduced with usage of steroids, the cyst reduced in size.

References

1. Shields JA, Shields CL, Lois N, Mercado G. Iris cysts in children: classification, incidence and management. *Br J Ophthalmol* 1999; 83:334-8.
2. Lois N, Shields CL, Shields JA, Mercado G, De Potter P. Primary iris stromal cysts. A report of 17 cases. *Ophthalmology* 1998; 105(7):1317-22.
3. Wilson W. Iris cyst treated by Electrolysis. *Br J Ophthalmol* 1964; 48:45-9
4. Mullaney J, Fitzpatrick C. Idiopathic cyst of the iris stroma. *Am J Ophthalmol* 1973; 76(1):64-7.
5. Baranwal VK, Lt Col, Kumar S, Lt Col, Gaur S, Lt Col, Satyabala K, Lt Col, Dutta AK, Maj Gen, VSM, (Retd) and Murthy PK, Brig, (Retd). An uncommon case of primary iris cyst managed with Nd:YAG laser. *Med J Armed Forces India* 2015; 71(suppl1):S82-S84.
6. Xiao Y, Wang YH, Niu GL, Gao M. Primary iris stromal cyst with rapid growth. *Optom Vis Sci* 2009; 86(11):E1309-12.
7. Capó H, Palmer E, Nicholson DH. Congenital cysts of the iris stroma. *Am J Ophthalmol* 1993; 116(2):228-32.
8. Shields CL, Arepalli S, Lally EB, Lally SE, Shields JA. Iris stromal cyst management with absolute alcohol-induced sclerosis in 16 patients. *JAMA Ophthalmol* 2014; 132(6):703-8.
9. Duke-Elder S: System of Ophthalmology. St Louis: CV Mosby; 1974; 9:754-75.

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