

Large Non-traumatic Iris Cyst

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Abstract Iris cysts are uncommon ocular pathologies and their surgical excision is often difficult owing to their location and fragile nature. Herein, we report a patient who complained of progressive, painless blurring of vision in the left eye for six months. On examination, a large smooth non-transilluminant iris mass was seen extending from 11 o'clock to 5 o'clock region and touching the corneal endothelium. Surgical excision was performed and the patient's vision improved from HM to 6/48.

Keywords: non-traumatic iris cyst, large acquired iris cyst, trypan blue

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1. Introduction

An iris cyst is an epithelial-lined space that involves a layer of the iris. Iris cysts can be classified into primary or secondary. Primary cysts are classified into iris pigment epithelium cysts or stromal cysts, whereas secondary cysts can be due to trauma, tumour or medications. [1,2] There have been various approaches to managing iris cysts. Among the common methods utilized are argon laser photocoagulations, cyst aspiration with injection of sclerosing agents, and en bloc excision. [3,4,5] The treatment approach depends certain characteristics such as the size, nature, location and extent of the cyst. In this article we present a rare case of a large acquired non traumatic iris cyst and the clinical approach to its treatment.

2. Case Report

A 40 year-old mechanic who presented to us with complains of progressive blurring of vision in the left eye for six months associated with mild ocular discomfort. There was no history of topical medications, blunt or penetrating trauma to the eye nor ocular surgery. On examination, his visual acuity was 6/6 in the right eye and hand movement (HM) in the left eye. The reduced vision of the left eye was attributable to the obstruction of the visual axis by the cyst. Intraocular pressures were 20mmHg in both eyes. A large smooth non-transilluminant iris mass was seen extending from 11 o'clock to 5 o'clock region and touching the corneal endothelium. There were no features to suggest previous ocular trauma or surgery. The overlying anterior surface of the iris did not appear to be disrupted nor was there any alteration in its color (Figure 1). Ultrasound biomicroscopy (UBM) revealed that the mass extended to the posterior chamber with

compression to the lens capsule (Figure 2). We advised for surgical excision of the cyst. The patient requested time to think over and was given a short follow-up appointment. However, he defaulted his appointment and only presented again four months later due to ocular increasing left eye discomfort. This time, there were features of corneal decompensation such as corneal oedema and bullous keratopathy causing him pain and discomfort (Figure 3). There were no signs of uveitis seen.

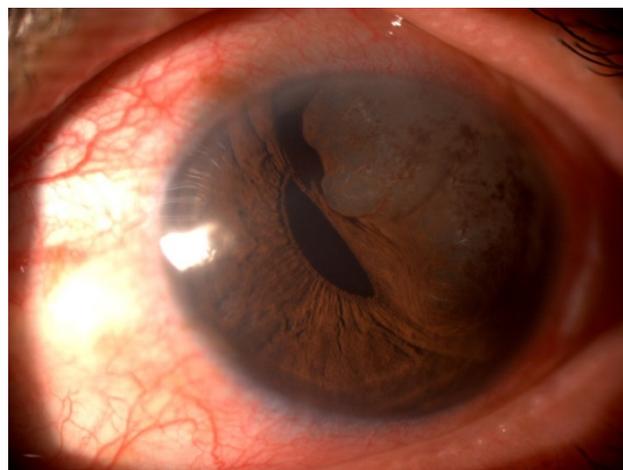


Figure 1. Iris cyst extending from the 11-5 o'clock region on initial presentation

He finally agreed for surgical intervention and underwent an excision of the iris cyst via a superior limbal incision from the 10 to 2 o'clock position. The cyst was separated from the corneal endothelium with ophthalmic viscoelastic device using viscodissection techniques. After decompressing the cyst via aspiration, trypan blue dye was injected into the cyst to stain the cyst capsule, thus delineating it without the risk of rupture. Balanced salt solution were used to flush any excess dye and more viscoelastic injected to optimize surgical space. The cyst was scrupulously removed *in toto* with excision of both

the anterior and posterior capsule walls, leaving behind the iris stroma bed. Later, the histopathological examination reported it to be an iris epithelial inclusion cyst. Post operatively, topical homatropine was administered for a week while topical ciprofloxacin, topical steroids prescribed for a month. During the last 1 year of follow-up, the patient has been comfortable and there is no recurrence of the cysts to date. The patient's vision improved from HM to 6/48. The visual improvement was limited due to corneal decompensatory changes that remained and present preoperatively (Figure 4).

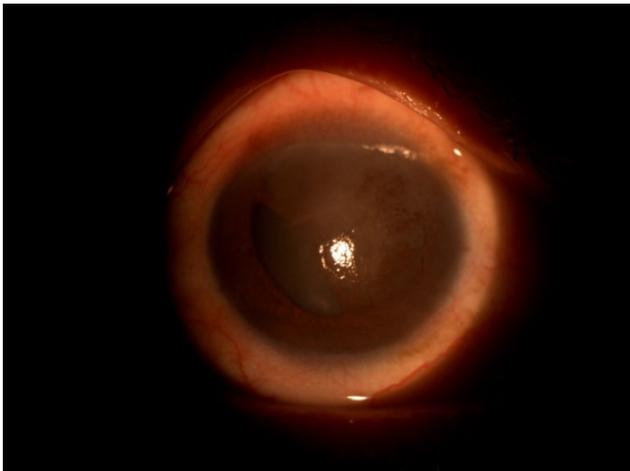


Figure 2. Iris cyst with corneal decompensation



Figure 3. UBM imaging of the iris cyst

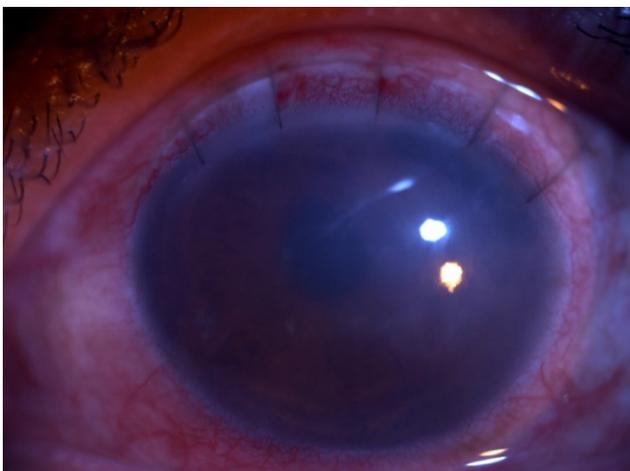


Figure 4. Post iris cyst excision

3. Discussion

Acquired non traumatic iris cyst are rare in contrast to those traumatic in origin. They can be classified mainly into 2 types. The first being pigment epithelial cysts of which anterior surface of the iris are usually not disrupted while disruption is quite common with stromal cysts and melanomas. [6] Iris pigment epithelial cysts also have a dark brownish appearance and typically do not trans-illuminate whereas iris stromal cysts appear as clear masses on the anterior surface of the iris and do trans-illuminate. [7] Among the common complications of iris cysts are angle closure glaucoma, plateau iris syndrome, pigment dispersion syndrome, corneal edema, cataract, lens subluxation and iritis. The risk of these complications increases as the size of the cyst increases. UBM has been the gold standard and mainstay for imaging iris cysts. They appear round or ovoid with a thin, hyperechoic wall and hypoechoic interior. [8] Our case was a pigment epithelial cyst based on histology complicated with corneal decompensation due to prolonged compression of the cyst against the corneal endothelium. Sclerosing agents such as alcohol, trichloroacetic acid, 5-fluorouracil, and mitomycin C have been advocated in some studies. [5,9] However none were utilized here due to concerns of leakage of sclerosant as the cyst was large with thin walls. This could have detrimental effects on the adjacent ocular structures causing cell lysis, toxicity, endothelial decompensation, cataract, uveitis and its sequelae. En bloc surgical excision was performed with trypan blue delineation assistance to mitigate potential adverse effects. In our opinion, the use of trypan blue dye, by enhancing visualization, assisted us considerably in meticulous removal of the cysts in their entirety while avoiding damage to the adjacent structures. It has a good safety profile, lack of problems with preservatives, minimal toxicity and inflammation cause it to be quickly adopted in various anterior segment surgeries.

4. Conclusion

In summary, a successful surgical removal was accomplished in this case with fairly good vision given the pre-existing circumstances. Treatment approach remains highly variable and should be selected, tailored, on a case by case basis.

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