



Case report

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A giant traumatic iris cyst

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ABSTRACT

A 52 year-old construction worker presented with progressive painful blurring of vision in the left eye associated with redness for past 1 month. There was a history of penetrating injury in the same eye 10 years ago and he underwent primary wound toilet and suturing, lens removal with intraocular lens implantation. Slit lamp examination revealed a corneal scar at 9 o'clock, a large transilluminant iris cyst superotemporally and adherent to corneal endothelium. It was extended from angle of the pupil and obstructing the visual axis. The patient underwent excision of an iris cyst through superior limbal incision. Viscodissection was done to separate the cyst from the corneal endothelium and underlying iris stroma. Trypan blue ophthalmic solution was injected into the cyst to stain the cyst capsule. Post operatively 7 days, vision improved to 6/7.5 without complication. There was no recurrence up to 1 year postoperation. Histopathological finding revealed a benign cyst mass lined by simple cuboidal to non-keratinized stratified squamous epithelium. We had achieved a good surgical outcome with no complication to date for our case study. We advocate this modified surgical method to completely remove iris cyst.

1. Introduction

Traumatic iris cysts are rare and usually due to the deposition of surface epithelial cells from the conjunctiva or cornea on the iris after surgery or penetrating trauma.

Iris cyst excision involves complex surgical manoeuvres and may have a variable visual outcome depending upon pre-existing and postoperative complications.

We describe a case of giant traumatic epithelial iris cyst and its management with good visual outcome.

2. Case report

A 52 year-old construction worker presented with progressive painful blurring of vision in the left eye associated with redness for past 1 month. There was a history of penetrating injury in the same eye 10 years ago. He underwent primary wound toilet and suturing, lens removal with intraocular lens implantation.

On presentation, his best visual acuity was 6/6 in the right eye and 6/15 in the left eye. Slit lamp examination revealed a corneal scar at 9 o'clock, a large transilluminant iris cyst superotemporally (Figure

1A,B) and adherent to corneal endothelium. It was extended from angle of the pupil and obstructing the visual axis. Cells were found in the anterior chamber and intraocular pressure was 12 mmHg. Fundus was unable to be assessed. Figure 1B scan shows flat retina and ultrasound biomicroscopy showed a huge iris mass with a clear cystic cavity with iridocorneal touch superiorly and without posterior segment involvement (Figure 2A,B).

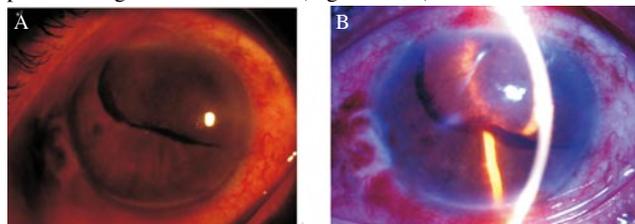


Figure 1. Superotemporal iris cyst (A) and the cyst obstructing the pupil with iridocorneal touch superiorly (B).

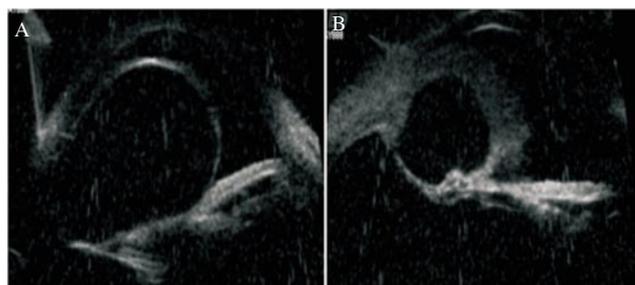


Figure 2. Ultrasound biomicroscopy examination. A: Iris cystic lesion; B: No posterior extension.

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The patient underwent excision of an iris cyst through superior limbal incision. Viscodissection was done to separate the cyst from the corneal endothelium and underlying iris stroma. Trypan blue ophthalmic solution was injected into the cyst to stain the cyst capsule. Viscoelastic agent was also used to apply compressive force to manipulate and deflate the cyst in conjunction with the external surgical drainage.

Cyst was removed completely with both the anterior and posterior wall excised leaving behind the iris stroma bed. Incision was closed with sutures (Figure 3). Postoperatively, patient was put on topical ciprofloxacin, topical steroid and topical homatropine for 2 weeks.

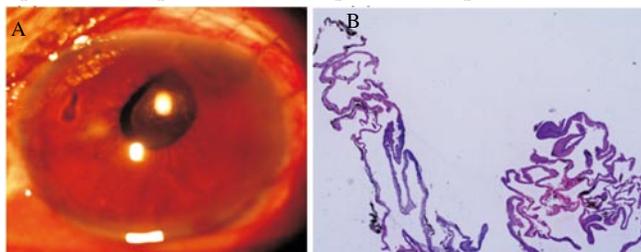


Figure 3. Completely removed iris cyst leaving a crater-like lesion (A) and histopathological examination-benign iris cyst (B).

Post operatively 7 days, vision improved to 6/7.5 without complications. There was no recurrence up to 1 year postoperation. Histopathological finding revealed a benign cyst mass lined by simple cuboidal to non-keratinized stratified squamous epithelium.

3. Discussion

Traumatic inclusion cysts are rare and can occur after penetrating injury, cataract and keratoplasty surgery. In our case, risk factors could be due to both penetrating injury and post cataract operation.

Traumatic iris cyst is generally difficult to manage and has poor visual outcome as a result of the extensive proliferation of epithelial cells with pre- and post-operative complications[1,2]. Potential iris cyst complication are corneal edema, corneal decompensation, iritis, hyphema, raised intraocular pressure, subluxation of the lens, cataract and band keratopathy[3].

Various treatments had been advocated including Nd: YAG laser puncture of cyst, cyst aspiration, surgical removal by cystectomy or total excision with iridocyclectomy and laser treatment with photocoagulation or cryotherapy[1,2,4,5]. As many studies have found, surgical intervention has better outcome and lower recurrence rate compared to laser therapy[2,4,5]. Other non-invasive technique include irrigation with 100% ethanol and subsequent excision of the epithelial implantation cysts. This technique is less invasive but it is not very popular due to potential adverse effect of 100% ethanol on the corneal endothelium and crystalline lens[6]. Absolute alcohol induced cyst sclerosis is recommended by the case report of Shields *et al.* as it is a simple and noninvasive. However, the results showed that it often requires 2 sclerosis procedures to obtain complete cyst collapse. Failure of this technique will need surgical intervention eventually[7].

In this patient, surgical intervention was necessary as the visual axis was covered by the large cyst and presence of iridocorneal touch causing potential problems of corneal decompensation and glaucoma. Furthermore, the presence of iridocorneal touch may increase the risk of corneal endothelium damage with laser therapy. Cyst aspiration and cystectomy with both the anterior and posterior wall were removed

Surgical intervention sometimes results in unfavourable outcomes, especially in children. Postoperative complications include glaucoma

and cataracts which are common among younger patients. This may result from a strong inflammatory response seen in these younger eyes postoperatively. In our case, complete cystectomy without iatrogenic cyst rupture in anterior chamber had led to a rapid resolution of pre-existing iritis and good visual recovery. Another poor prognostic factor is the development of an inclusion cyst following penetrating injuries with glass objects and it implied etiology of penetrating injury might play an important role[2]. However, iris cyst remains as a mystery regarding the pathogenesis, modes of presentation and response to treatment[8].

The selected treatment should be the least destructive, carry minimal risk of secondary complications and minimal recurrences. The technique of adjuvant use of ophthalmic viscoelastic agent, external surgical drainage of cyst followed by endophotocoagulation was also been reported by Lockington *et al.*[9]. Al-Ghadeer *et al.* also reported the technique and the outcome of viscoelastic dissection of a traumatic iris cyst[10]. In our case, we recommend viscodissection technique as it enables safe separation from surrounding structure. Besides, trypan blue injection was used to identify and delineate the cystic wall to minimize the iatrogenic iris stromal damage during cystic wall removal. In addition, good delineation of cystic wall ensures complete cystectomy and minimizes the recurrence risk.

4. Conclusion

We had achieved a good surgical outcome with no complication to date for our case study. We advocate this modified surgical method to completely remove iris cyst.

Conflict of interest statement

We declare that we have no conflict of interest.

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