Case report

Epithelial iris cyst after cataract surgery

Chaudhry M, Grover S, Sood N, Gupta R
MM Institute of Medical Sciences & Research, Mullana, Ambala, Haryana, India

Abstract

We report a case of an epithelial inclusion cyst of the iris following cataract surgery that was successfully treated with en bloc excision, after an unsuccessful attempt with Neodymium-doped Yttrium Aluminium Garnet (Nd YAG) Laser. A 60-year-old man had undergone cataract surgery two years back. One year later, he developed a pigmented epithelial inclusion cyst of the iris which progressively increased in size. His vision reduced to finger counting close to face as the cyst grew over the pupil. We performed Nd YAG laser cystotomy of the cyst wall initially, but the treated lesion recurred. So we performed an en bloc iris excision of the cyst with sector iridectomy. There was no recurrence as determined by slit lamp examination at six months after treatment. Hence, we conclude that en bloc excision can be used to effectively treat epithelial inclusion cyst of the iris.

Key-words: epithelial inclusion cyst, laser photocoagulation, en bloc excision

Introduction

Epithelial and fibrous invasion in the anterior chamber have been recognized complications of cataract surgery, other anterior segment surgery and trauma (Farmer, 1981). The most common reasons being faulty wound closure, improper toileting and formation of retrocorneal membrane due to endothelial metaplasia. This leads to epithelial in growth in anterior chamber, over iris surface and the corneal endothelium. Experimental evidence points to contact with iris and exposure to plasmoid aqueous as determinants of the development and eventual increase in size of epithelial cyst (Cogan, 1955; Regan, 1957).

Small cyst that is stable in size may be asymptomatic and hence, be present for years (Haller, 2002). Only if the cyst increases in size, it may lead to obstruction of visual axis and other complications like uveitis, corneal edema or glaucoma (Bennett, 1974; Verma, 2002).

Various modalities have been employed to treat this condition, like aspiration and injection of sclerosing agents, electrolysis, endodiathermy and en bloc excision. Treatment with Nd YAG Laser has also been used to rupture the cyst (Gupta, 2007). Here we report a case of an epithelial inclusion cyst of iris that recurred after Nd YAG Laser cystotomy, but was successfully treated with en bloc excision with sector iridectomy.

Case report

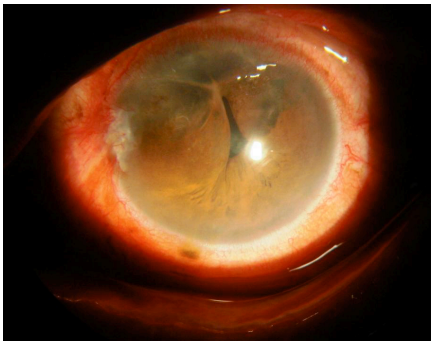
A 60 year old male presented with diminution in vision of left eye following cataract surgery two years back. One year later, it was associated with photophobia, watering, redness and pain. There was no history of associated trauma or any long term topical medication in this eye. He was diabetic and on oral anti-diabetics. His blood sugar levels were under control. He did not have any other significant past medical or surgical history.

On ocular examination, his best corrected visual

Received on: 03.02.2011 Accepted on: 08.09.2011
Address for correspondence: Dr Mridu Chaudhry, # 1118, Sector 9, Urban Estate, Ambala City, Haryana (India) – 134 003, Tel: + 91-9896184190 (Mobile), +91-1731-304473 (Telefax)
E-mail : mriduch77@yahoo.com

acuity in right eye was 6/18 and in left eye, only hand movements with Projection of Rays (PR) accurate. On anterior segment examination, right eye was normal while his left eye had mild conjunctival congestion with mild corneal haze. Anterior chamber was irregular with chamber being shallow from three to nine o'clock position. This was due to two pigmented iris cysts in superior quadrant covering the pupillary area leaving a slit-like area in the middle [Figure 1].

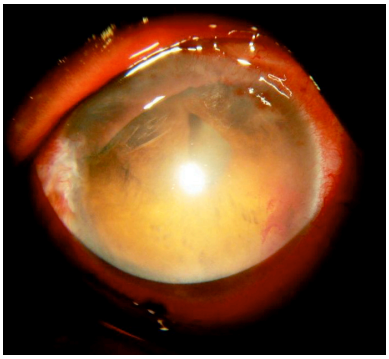
Figure 1: Two epithelial cysts of iris visible with a slit-like pupil between them



He had immature senile cataract in his right eye and left eye was pseudophakic with dense posterior capsule opasificaton (PCO). On fundus examination, right eye was normal and left eye media was hazy so details were not appreciable. On applanation tonometry, intra ocular pressure (IOP) in his left eye was 40 mm Hg and in right eye, 18 mm Hg.

Left eye was subjected to Nd YAG laser cystotomy under topical anaesthesia. Immediately following multiple shots of laser, there was hyphaema which resolved in one to two days with medication [Figure 2].

Figure 2: Immediate post-laser regression of iris cyst



On the first post-laser day, IOP recorded on applanation was 25 mm of Hg in the left eye, along with decrease in size of the iris cyst with increase in the diameter of the pupil. Following this, he was given a topical steroid-antibiotic combination with oral and topical anti-glaucoma drugs. After one week, IOP was 17 mm of Hg and the iris cysts resolved but there was no improvement in the visual acuity because of dense PCO. Oral antiglaucoma drugs were discontinued but topical preparations of antibiotic-steroid combination and topical antiglaucoma drugs were continued. At four weeks follow-up, IOP was stable and patient was symptomatically better. But after eight weeks, there was recurrence of the iris cysts. This led to decrease in the pupillary diameter but IOP was 20 mm Hg. So en bloc surgical excision with sector iridectomy was done. Following this, though there was hyphema, but iris cysts completely subsided without recurrence, even at six months follow-up.

Discussion

Iris cysts are classified as primary and secondary with primary being more common. Secondary cysts develop as a result of trauma, intra-ocular parasites, tumors, prolonged use of topical drugs and surgery.

Rothmund, in 1872, reported 37 cases of epithelial cysts of anterior chamber with two occurring after cataract extraction and the remainder following trauma. Collins and Cross in 1892 demonstrated histo-pathologically the presence of epithelial tissue in anterior chamber after cataract surgery.

The overall incidence of cystic and sheet-like epithelial invasion after accidental and surgical penetration of the anterior segment has been estimated to be 0.06 % - 0.11 % (Theobald, 1948). Although cysts are considered to be more common, the incidence of such complications has reduced due to improvement in surgical skills, operating microscope and proper wound closure.

Cataract surgeries complicated by incarcerated iris, remaining lens matter or vitreous disturbance, usually show some evidence of poor wound closure.

The causation of epithelial cyst has been attributed to poor instrumentation, use of cellulose sponge, cotton fibers left in the eye during surgery and due to improper suture tract, among others.

Epithelial inclusion cysts follow a more benign, although quite variable, clinical course. They may remain quiescent for many years before enlarging and/or causing symptoms. They contain straw-colored turbid or mucinous fluid. Differential diagnosis includes neuro-epithelial cyst, parasitic cyst and congenital iris cyst.

Most appropriate management includes periodic observation at three to four months interval with serial anterior segment photography and prompt intervention in cases in which vision is impaired due to obstruction of visual axis, uveitis, glaucoma or corneal edema.

Various treatment modalities have been employed. However best treatment is not yet determined and it is not clear whether laser treatment, surgical treatment or cyst aspiration with or without laser photocoagulation or en bloc surgical removal offers the best chance of control. In the present case, Nd YAG cystotomy was associated with recurrence within two months. So we had to do an en bloc excision of the cyst with sector iridectomy. There was no recurrence thereafter – even at six months follow-up. Only marginal improvement in vision occurred because of dense fibrous PCO but patient was symptomatically better because of healed uveitis and glaucoma.

Conclusion

Secondary iris cysts are difficult to manage and have poor visual outcome if not managed in time. Appropriate surgical management appears to be a better option in such cases as compared to non invasive laser procedures.

References

Bennett T, D' Amico RA (1974). Epithelial inclusion cyst of iris after keratoplasty. Am J Ophthalmol;77:87-9

Cogan DG (1955). Experimental implants of conjunctiva into the anterior chamber. Am J Ophthalmol;39:165-72.

Collins ET, Cross FR (1892). Two cases of epithelial implantation cyst in the anterior chamber after extraction of cataract. Trans Ophthalmol Soc UK;12:175

Farmer SG, Kalina RE (1981). Epithelial implantation cyst of the iris. Ophthalmology;88:1286-9

Gupta V, Rao A, Sinha A, Kumar N, Sihota R (2007). Post-traumatic inclusion cysts of the iris: A long term prospective case series. Acta Ophthalmol Scand;85:893-6

Haller JA, Stark WJ, Azab A, Thomsen RW, Gottsch JD (2001). Surgical approaches to the management of epithelial cysts. Trans Am Ophthalmol Soc;100:79-84

Regan EF (1957). Epithelial invasion of the anterior chamber. Trans Am Ophthalmol Soc;55:741–72.

Rothmund A (1872). Ueber cysten der regenbogenhaut, Klin Monatsbl Augenheilkd; 10:189-223

Theobald GD, Haas JS (1948). Epithelial invasion of the anterior chamber following cataract extraction Trans Am Acad Ophthalmol Otolaryngol; 52:470-85

Verma L, Ray M, Sharma N, Sinha R, Vajpayee RB (2002). Presumed epithelial inclusion cyst of the iris seven years after radial keratotomy. Cornea; 21(7):709-11

Source of support: nil. Conflict of interest: none