INTRODUCTION
Iris cysts can arise from iris pigment epithelium or stroma. These can arise from iris pigment epithelium (IP) or stroma. Of all the iris tumors, IP cysts account for around 30% in children/young adults and 15% in mid adults/senior adults. IP are 6 times more than stromal cysts.1 Iris cysts can present in different ways. There may be a solitary cyst or numerous iridociliary cysts which can give rise to plateau iris like configuration. A complete ring cyst of iris pigment epithelium can also be found or the cysts may be free floating in the aqueous or in the vitreous.2 Blood vessels may be seen by bio-microscopy as was visible in our case, or by angiography. Occasionally, these can enlarge and cause angle closure.3 Rapid growth in a few weeks has been reported at the age of 14 years. Hyperemia, pain and increased IOP due to recurrent iris cyst discharge, has also been found in IP cyst.4

We present 3 cases of iris cysts which have been managed in different ways.

CASE REPORT

Case 1: A one-month neonate was brought for eye checkup as the mother was unable to see the pupil of the left eye. Congenital iris cyst was diagnosed (Figure 1; upper row, right photo) and treated with YAG laser. Postoperatively 0.1% dexamethasone eye drops 3 times a day were given. IOP at this stage was 12 mmHg right and 5 mmHg left. Eight weeks after the laser treatment, thin walled recurrent cyst was filling half of the anterior chamber (Figure 1; upper row, right photo) and 11 weeks later, it was filling 80% of the anterior chamber. At this stage, IOP was 12 mmHg right and 22 mmHg left. Under general anesthesia, the cyst was punctured with keratome, visco dissection was done to separate the cyst wall from the posterior cornea, and gentle diode laser endophotocoagulation was applied to the base and angle (300 mW/200ms/514 pulses). Wound was closed with 10/0 vicryl suture. (Figure 1; 2nd row from above, left photo). Postoperatively, eye drops - 0.1%

Figure 1: Upper two rows (Case 1) Upper row - left and middle, pre-op. Right, 8-week after laser. 2nd row from above - after excision and diode laser endophotocoagulation. Third row from above (Case 2) Left, pre-op. Middle, needle in the cyst. Right, 3-month postop. Lower most row (Case 3) Left and middle, pre-op. Right, post-op.
A 2.5-month Pakistani infant boy presented with clinical survey of 3680 iris tumors based on Journal of the College of Physicians and Surgeons Pakistan 2016, Vol. 26 (Special Supplement 1 of Case Reports): S71-S73. Case 2: A 2.5-month Pakistani infant boy presented with watering and blepharospasm in his left eye since birth. He could not fixate and follow with his left eye. Right eye was normal. Horizontal corneal diameter was 11 mm on the right and 12 mm on the left side. The left eye had mild corneal haze, iris atrophy and iris cyst filling 80% of the anterior chamber obscuring the pupil (Figure 1; 3rd row from above, left photo). IOP was 12 mmHg the right and 38 mmHg in the left eye. Under general anesthesia, 0.4 ml of clear fluid was aspirated from the cyst with a 27-gauge needle. Once the cyst was reduced to one-fifth the original size, with needle still in the cyst (Figure 1; 3rd row from above, middle photo), syringe was replaced with one containing Ethanol 96% (ETOH). ETOH was gently injected into the cyst and it turned cyst wall white in one minute. It was aspirated and followed by injection/ aspiration of 0.3 ml of balanced salt solution thrice. Cyst wall was excised and histopathology revealed only epithelial cells. Postoperatively, dexamethasone and atropine eye drops were given. On first postoperative day (Figure 1; 3rd row from above, right photo), mild anterior chamber inflammation was noted. IOP was 11 mmHg in the right and 22 mmHg in the left eye. Six weeks later, IOP increased 12 and 28 mmHg, respectively so antiglaucoma medication was started in the left eye. Three months after the operation, the child was fixing and following with his left eye also.

Case 3: A 13-month toddler boy presented with 4-month history of intermittent irritation and photophobia in the left eye. At the initial examination of the left eye with magnifying lens, the first impression was that the crystalline lens has dislocated forward in the anterior chamber (Figure 1; bottom line, left). There was no gross inflammation and the cornea was clear in the left eye. Right eye appeared to be normal. IOP was 10 in right and in left 44 mmHg. Timolol 0.5% eye drops, 12-hourly were started in the left eye. Closer examination of the left eye with operating microscope (Figure 1; bottom line, middle) under general anesthesia, revealed a cystic lesion with thin translucent brownish walls. The lesion occupied the superior half of anterior chamber, covering the pupil and blurring its details. A branching blood vessel was visible on the deeper wall of the cyst. Intraocular pressure was 8 mmHg. Ultrasound B scan revealed the lens was in its natural position in both eyes. The cyst was aspirated with a 25-gauge needle and fluid cytology revealed only a few “degenerated cells with fine granular brown pigment (Papanicolaou stain) in cytoplasm compatible with melanosomes”. Once the size was reduced to the half, the cyst walls were nibbled with 20-gauge vitrectomy cutter. It was difficult to remove the frill of cyst wall attached to the corneal endothelium. Anterior chamber was maintained with infusion of balanced electrolyte solution. Extreme care was taken not to damage the lens. Complete removal of the cyst, exposed the iris and the pupil (Figure 1; bottom line, right). Retinoscopy was done a few days later and revealed emmetropia. There was no recurrence in 2 months of follow-up.

DISCUSSION

Iris cysts can be examined by anterior segment OCT, which is considered better for anterior margin while ultrasound biomicroscope (UBM) is considered better for the visualization of the whole, especially the posterior margin. Excision biopsy (including cutter assisted) has been used to differentiate it from the rest of the iris tumors. There are different management options. Different chemical substances have been described for destruction of epithelial cells including 10% acetic acid, 1% iodine, cocaine, 20% trichloroacetic acid, 96% ethanol (ETOH), MMC etc. Needle aspiration has been done to decrease size and no recurrence was found in 6 months. Nd YAG Laser has also been used to puncture the cyst with no recurrence in 1 out of 2 cases in 10 months. In one study, there was no recurrence in 3 and 8 years whilst others have reported recurrence after 5 months; and in this case, needle aspiration and surgical excision was performed with no recurrence after 1 year. Free floating iris cyst in vitreous has been removed with pars plana vitrectomy. Other techniques used include viscoelastic dissection in traumatic cyst, cryotherapy, followed by diode laser to iris where cyst was attached, and needle aspiration, piecemeal resection of cyst wall, cryotherapy, followed by argon laser photoagulation with overlapped spots.

In the present series, 3 cases were treated in different ways depending upon surgeon’s choice. The latest trend is towards excision rather than injection of sclerosing solutions. Aim is to remove the whole cyst to avoid recurrence. Prompt management of such lesions is necessary to clear the visual axis and to prevent amblyopia.

REFERENCES

3. Kathil P, Chin KJ, Ghaznawi N, Finger PT. Transpupillary Nd:YAG laser cystotomy for iris pigment epithelial cysts with...


