CASE REPORT

Traumatic intraocular lens ectopia from a nonadhesive capsule

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Introduction: This study describes a case of traumatic intraocular lens (IOL) ectopia with retention in the pupil that occurred 2 years after cataract surgery.

Patient and Clinical Findings: A 55-year-old man, who underwent cataract surgery 2 years ago, sustained an ocular injury while slapping a bug on the left eyelid, following which he had decreased vision. His IOL shifted out of the capsule and was retained in the pupil.

Diagnosis, Intervention, and Outcomes: The patient was diagnosed with IOL ectopia with retention in the pupil. An IOL reposition operation was performed successfully. The IOL was completely returned into the capsule, and postoperatively, his uncorrected distance visual acuity immediately improved to 0.097 logMAR.

Conclusions: An IOL could slide out of the nonadhesive capsule under external force even if the capsulorhexis is performed perfectly with a continuous curvilinear circle at the center and the anterior capsule covers the IOL optical surface.

We report a case of traumatic intraocular lens (IOL) ectopia that occurred 2 years after cataract surgery with perfect capsulorhexis. The ectopic IOL was retained in the pupil and was accompanied with a sudden decrease in the patient’s visual acuity.

We obtained informed consent from the patient for the collection and publication of pertinent medical information and the pictures.

CASE REPORT

A 55-year-old man underwent cataract phacoemulsification and single-piece IOL (PCB00, Johnson & Johnson Vision) implantation 2 years ago. His uncorrected distance visual acuity (UDVA) was 0.0 logMAR after the procedure. He slapped a bug on the left eyelid and sustained an ocular trauma, following which his vision decreased immediately without any other complaint. The symptom of decreased visual acuity lasted for 10 days. At presentation, his UDVA was 0.22 logMAR and –1.00 –0.50 × 135 corrected to 0.0 logMAR. The patient’s IOL haptic had prolapsed anterior to the iris and the optical surface but retained in the pupil. Pigment particles floating in aqueous humor and Tyndall sign were observed but neither severed iris nor broken anterior capsule was noted; moreover, there was no hemorrhage or other injury (Figure 1). An IOL repositioning operation was successfully performed through a paracentesis; an ophthalmic viscosurgical device was injected to dissociate the capsule and completely return the dislocated IOL back into the capsule (Video 1, available at http://links.lww.com/JC9/A361). Postoperatively, the UDVA immediately improved to 0.097 logMAR, with a centered IOL. Moreover, the pupil was round, with a diameter of 3 mm, and showed sensitivity to light after IOL repositioning.

DISCUSSION

The IOL ectopia in this case was caused by an external trauma to the eyelid 10 days before consultation. The patient’s vision had decreased but recovered immediately after the operation. Furthermore, the capsule was easily separated to return the dislocated IOL back to its original position, demonstrating little fibrotic change and almost no capsular adhesion.1 Capsular fibrosis mainly include anterior capsule fibrosis and posterior capsule opacification. Anterior capsule fibrosis can cause shrinkage and constriction, which indicates a relatively small size of capsulorhexis.1 After returning...
the ectopic IOL back into the anterior capsule, we could observe that anterior capsule opacification occurred evenly, which suggested that no shrinkage happened in the injured position. Otherwise, capsular adhesion and shrinkage would have happened 2 years after phacoemulsification had the capsulotomy not covered the optic surface. Furthermore, no re-capsulotomy was needed because we censored the originally capsulotomy covering the optic at the end of the surgery. Hydrophobic acrylic IOL exhibits higher adhesion to the anterior capsule; the PCB00 IOL was a single piece with square optic geometry, limiting the lens epithelial cell migration, which might induce anterior capsule opacification and capsular retraction. An appropriately sized capsulorhexis could retain the 360-degree overlap of the IOL optic, while ensuring minimal residue of the cortex in the capsule. This patient had no history of diabetes or any other immune disease, and only limited inflammation occurred in his eye. Therefore, there was no factor to promote anterior capsular adhesion or shrinkage of the IOL in the emmetropic eye; under external force at a specific angle, the IOL can easily slide out of the capsular without capsular breakage, iris fracture, zonular instability, hemorrhage, or any other worse damage.

This case showed that severe trauma to the eye could cause IOL repositioning from a nonadhesive capsule a few years postoperatively. This may be observed despite perfect capsulorhexis with continuous curvilinear circle at the center and the anterior capsule completely covers optical surface of the IOL.

**WHAT WAS KNOWN**
- An IOL could slide out from the anterior capsule any time after cataract surgery.

**WHAT THIS PAPER ADDS**
- Traumatic IOL ectopia can occur red under external force despite perfect capsulotomy and the anterior capsule perfectly covers the optical surface of the IOL.

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Disclosures: None reported.

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