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CASE REPORT

Recurrent pupillary sulcus fixated-intraocular lens captures in a patient with atopic dermatitis: Case report

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Abstract

Background: To our knowledge, there is no previous report of repeated sulcus–fixated IOL captures occurring in patients with atopic dermatitis.

Case presentation: A 21–year–old man with atopic dermatitis since childhood underwent an uneventful phacoemulsification/aspiration procedure followed by implantation of a 3–piece intraocular lens (IOL) in the capsular bag due to atopic cataract. Two years later, the patient suddenly complained of decreased visual acuity and monocular diplopia in the right eye. On examination, dislocation of the unwrapped IOL and lens capsule into the vitreous cavity was noted in the right eye. A complete pars plana vitrectomy for removal of the luxated IOL with suturing sulcus fixation of a single–piece polymethylmethacrylate (PMMA) IOL was performed in the right eye. The intra–, and postoperative courses were uneventful. During the follow–up period of 12 months, five recurrent episodes of pupillary sulcus–fixated IOL captures were observed in the right eye.

Conclusion: Recurrences of sulcus fixated PC–IOL captures in a patient with atopic dermatitis may be rare.

Key words : Atopic dermatitis, intraocular lens capture, sulcus fixation, dislocation

■Background

Dislocations of posterior chamber intraocular lens (PC-IOL) have been reported as postoperative ocular complications related to atopic cataract surgery[1, 2]. To our knowledge, however, there have not been any reports on the dislocation of sulcus-fixated PC-IOL in a patient with atopic dermatitis. We recently encountered a case of atopic dermatitis with recurrent pupillary PC-IOL captures occurring after complete pars plana vitrectomy with suturing sulcus fixation of PC-IOL.

■Case presentation

A 21-year old man underwent phacoemulfisication / aspiration and PC-IOL implantation (corneal incision; 3 mm, IOL; Alcon, MA60BM, three-piece 6.0mm-hydrophobic acrylic optics) in the right eye on January11, 2005. The PC-IOL was implanted into the capsular bag. There were no intra or postoperative complications. On March 26, 2007, he suddenly complained of decreased visual acuity and monocular diplopia in the right eye. On examination, visual acuity was 0.5 with correction (sphere, +13.5 diopters [D]; cylinder -0.75 D; axis, 90°) OD and 0.4 with correction (Sphere, +1.75 D; cylinder -0.5 D; axis, 20°) OS. The intraocular pressures were 14mmHg OU. The bilateral eyelids were thickened and atopic eczema were noted. Superficial punctuate keratitis and incision wound scar were seen in the right cornea. The left cornea appeared clear. Aqueous cells and vitreous herniation were seen in the anterior chamber in the right eye, and the left anterior chamber appeared clear. PC-IOL become unwrapped with capsular bag dislocated into the vitreous cavity in the right eye. The ruptured capsule floated in the anterior vitreous in the right eye. Posterior subcapsular opacity of the left lens was also noted. Both fundi appeared normal. On April 2, 2007, The patient underwent a pars plana vitrectomy for removal of the luxated IOL with sulcus fixation of PC-IOL (Alcon, CZ70BD; single-piece 7-mm PMMA optics,

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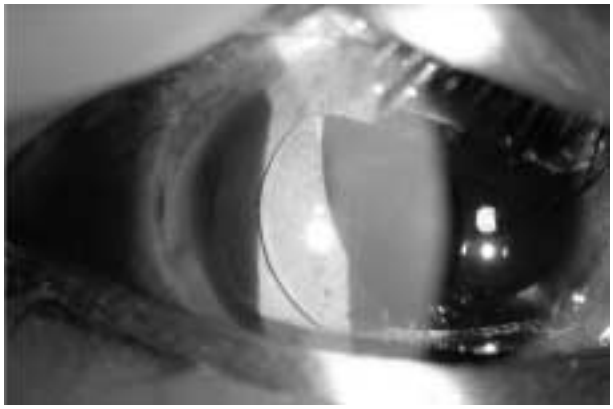

Fig. 1 On examination on April 10, 2008, the temporal edge of the optic of the IOL was displaced anterior to the iris in the right eye.

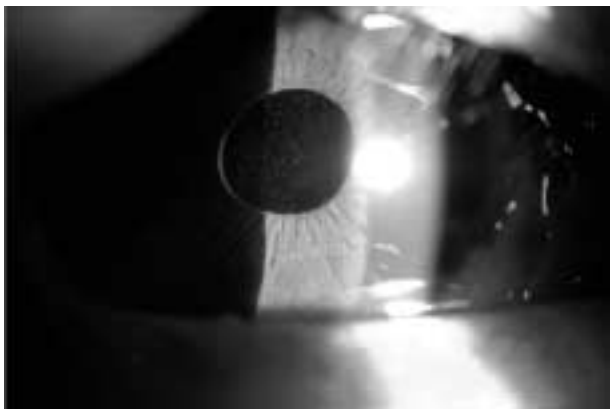

Fig. 2 Re-positioning of the IOL was achieved after topical instillation of tropicamide on April 11, 2008.

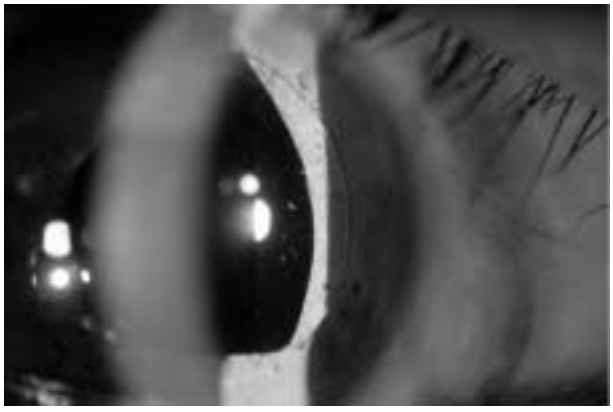

Fig. 3 Pupillary IOL capture was seen on the nasal side of the right eye on examination on June 6, 2008.

+23D). Circumferential residual capsule with zonular fibers were observed at the ciliary body by scleral indentations. The PC-IOL was fixed at two points using partial scleral flap placed at 180 degree apart at 4 and 10 o'clock into the ciliary sulcus 1.5mm behind the limbus with 10-0 prolene sutures. There were no intraoperative complications. Postoperatively, there was no apparent tilt or decentration of the PC-IOL. One week later, the right visual acuity was 0.4 with correction (sphere, +1D; cylinder -1.75 D; axis, 40°). On April 10, 2007, PC-IOL capture was noted on the temporal side of the right eye (Fig. 1), After treatment with topical instillations of tropicamide, re-positioning of the dislocated PC-IOL was achieved. On April 11, 2007, the PC-IOL capture was again noted on the nasal side of the right eye. Topical tropicamide was administered again, and the PC-IOL was re-positioned (Fig. 2). On June 6, 2007, January 9, and April 9, 2008, the pupillary PC-IOL captures were repeated on the nasal side of the right eye (Fig. 3). Those PC-IOL captures were re-positioned spontaneously. At present, the patient demonstrates good visual acuity (1.0) in the right eye.

■Discussion

In our patient with atopic cataract, an eventful phacoemulsification/aspiration and PC-IOL implantation in the capsular bag was performed. Two years later, the unwrapped IOL along with the capsular bag became dislocated into the vitreous cavity. Gimbel et al reported that zonular weakness due to ocular blunt trauma might be responsible for luxation of the IOL with capsular bag after cataract surgery[3]. Saika et al reported that isolated rupture of the posterior lens capsule could occur without any sequelae after blunt ocular trauma[4]. In our patient, circumferential residues of the capsule equator with zonular support were observed at the sites of the ciliary body. It is possible that these findings in our atopic patient may indicate intact stabilities of zonular support. Therefore, it is probable that isolated rupture of the posterior capsule may initially develop by habitual rubbing, and then the IOL may dislocate into the vitreous cavity due to enlargement of the posterior capsule rupture. The patient underwent an uneventful pars plana vitrectomy with sulcus fixation of the PC-IOL. There was no apparent tilt of the fixated-IOL. The diameter of the fixated IOL optic was 7mm, and the edge of the optic was not observed under maximum pupil dilation. It is unlikely that pupillary PC-IOL captures would develop repeatedly under such ocular conditions. Ocular contusions due to facial rubbing by our atopic patient were thought to have been intense. Bading et al reported that IOL capture occurred in six of 63 cases undergoing combined surgeries of vitrectomy with sulcus fixation of PC-IOL[5]. Pupillary IOL capture may be likely to occur due to structural weakness of vitrec-

tomized eye against ocular contusions including eye rubbing or scratching. Superstein et al reported that blunt ocular trauma caused anterior dislocation of the PC-IOL[6]. Blunt ocular trauma may sometimes induce a mechanical force that compresses the IOL anteriorly. In our patient, these complicating factors may have been responsible for the recurrent episodes of pupillary PC-IOL captures. To our knowledge, recurrences of sulcus-fixated PC-IOL captures in patients with atopic dermatitis have not been reported previously.

■Conclusion

Ophthalmologists should keep in mind that blunt ocular trauma such as rubbing and scratching might cause pupillary PC-IOL capture after an uneventful sulcus-fixation of IOL.

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Authors contributions

ST and KK wrote the initial draft and assisted in its final preparation and submission. SY, KK, and AH were involved in the care of the patient and helped write the manuscript. KW was the primary surgeon involved in the care of the patient. All authors have read and approved the manuscript.

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