

Anterior dislocation of a sulcus fixated posterior chamber intraocular lens in a high myope

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A 31-year-old man with high axial myopia and strabismus fixus convergens underwent bilateral refractive lens exchange followed by a squint surgery (bilateral superior partial Jensen's procedure and medial rectus recession). After one year he presented with traumatic anterior dislocation of the sulcus fixated posterior chamber polymethyl methacrylate lens. The lens was dialed back into the ciliary sulcus without any complications. This case highlights the importance of implanting an intraocular lens (IOL) in-the-bag. If the IOL needs to be implanted in the sulcus, a larger diameter of the IOL with larger optic size and overall length is desirable, especially in highly myopic eyes.

Key words: Anterior dislocation, complication, high myopia, intraocular lens implant, sulcus fixation

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Traumatic dislocation of an intraocular lens (IOL) can result in its displacement into the suprachoroidal space,¹ subconjunctival space²⁻⁵ and vitreous cavity.⁶ Occasionally, it can also extrude from the eye following trauma.⁷⁻¹⁰ Dislocation of an IOL in the anterior chamber is rare. Plate haptic silicone IOLs^{11, 12} are reported to dislocate in the anterior chamber due to fibrosis of

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the capsular bag or after a YAG anterior capsulotomy. In one report damage to the haptics of foldable multipiece acrylic lenses was the cause of anterior dislocation.¹³ There also exists one report of post traumatic anterior dislocation of a polymethyl methacrylate (PMMA) IOL.¹⁴ The anterior dislocation of IOL is also reported to occur in toto with the capsular bag in patients with pseudoexfoliation.^{15,16}

In this report a well-centered single piece ciliary sulcus fixated PMMA IOL completely dislocated into the anterior chamber without wound dehiscence or an iris trauma in a highly myopic eye. This report provides yet another reason to ensure meticulous insertion of an IOL in the capsular bag, especially in a highly myopic eye.

Case History

A 31-year-old man presented with insidious onset horizontal diplopia for one year. He used spectacles since the age of six years. His best corrected visual acuity was 20/60 in the right eye with -32.0 diopter (D) and 20/60 in the left eye with -31.0 D. Orthoptic evaluation revealed 25 prismD esotropia in the right eye. Abduction on both sides was limited [Fig. 1]. Forced duction test was negative. He was diagnosed to have myopic strabismus fixus convergens. He underwent bilateral clear lens extraction with PMMA IOL (Model S3500, Optic size 5.0 mm, overall length 12.0 mm, posterior vault 0.3 mm, Modified "C" Loop haptics, Aurolab, Madurai, India) implantation. Postoperative targeted refraction was -2.0 D. After simple lens aspiration, IOL was implanted through a 5.0 mm superior sutureless scleral tunnel incision (+4 D in right eye and +5.5 D in the left). Surgery in the right eye was followed by left eye surgery. Postoperatively IOL in the left eye was noted to be inadvertently placed in the sulcus where it was stable, well-centered and without any tilt for 12 months until the patient sustained an injury to his left eye with a cricket ball.

In the interim period he underwent bilateral partial superior Jensen's procedure¹⁷ with medial rectus recession achieving orthotropia and resolution of diplopia. Abduction in both eyes improved significantly.

A year after the IOL implantation, he came with the complaint of mild pain in the left eye following an injury with a cricket ball three days prior to the presentation. On examination his best corrected visual acuity was the same as it was four



Figure 1: Pseudo-proptosis with the right convergent squint with abduction deficiency after refractive lens exchange and IOL implantation

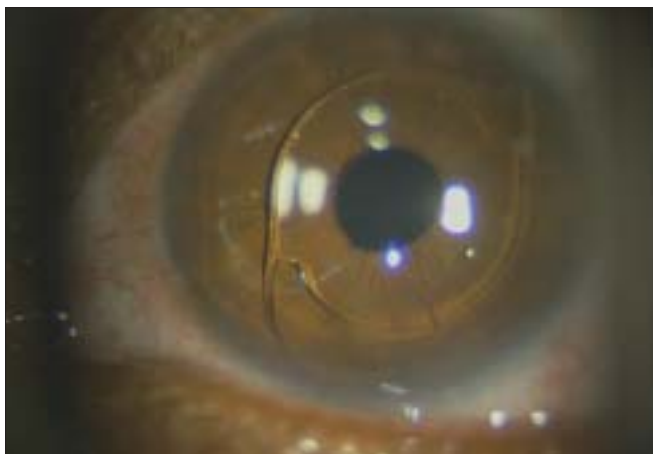


Figure 3: Diffuse illumination slit-lamp photograph showing the PC IOL dislocated in the anterior chamber with circumferential corneal congestion

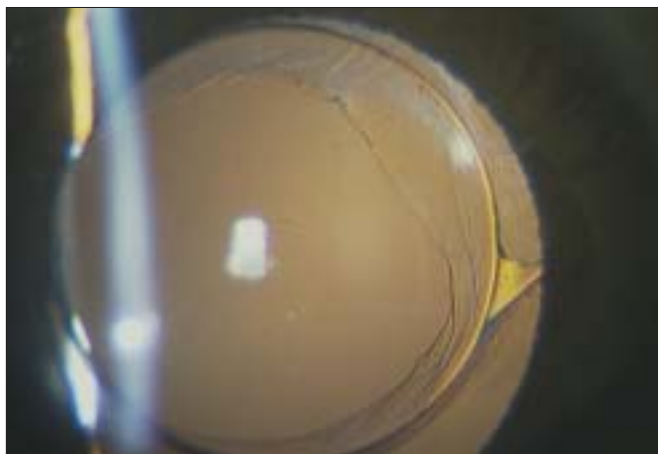


Figure 2: Retroillumination slit-lamp photograph showing the well-centered in-the-bag IOL with a quiet eye in the other eye of the same patient

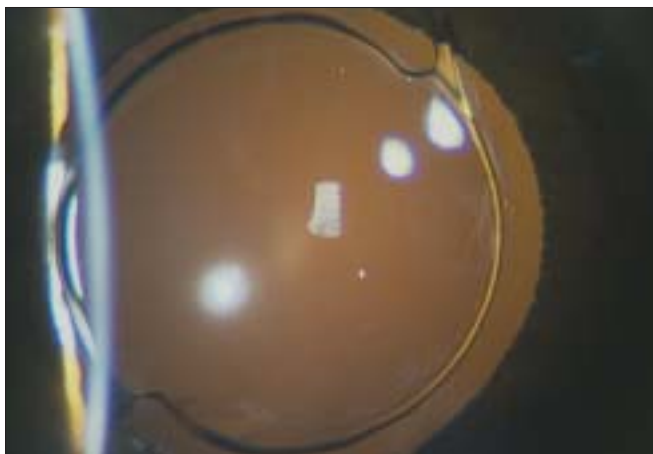


Figure 4: Retroillumination slit-lamp photograph showing the fused anterior and posterior capsular leaflets along the capsulorrhexis margins

months back. The IOL in the right eye was well-centered and in-the-bag [Fig. 2] while there was a total anterior dislocation of IOL in the left eye [Fig. 3]. His best corrected visual acuity was 20/60 with -2.5 D -1.0D x90 in both eyes. This was associated with mild traumatic uveitis (cells 1+ and flare 1+). There was no iris sphincter tear or hyphema. The cataract surgery wound was intact. The capsular bag was intact and there was a fibrotic fusion of the anterior and posterior capsule along the capsulorrhexis margins in the left eye [Fig. 4]. Since the fibrotic adhesions between the anterior and posterior capsule could not be released, the IOL was dialed back into the ciliary sulcus under topical anesthesia and the pupil was constricted with pilocarpine. The uveitis resolved with topical steroids.

Discussion

This is a rare case where a single-piece PMMA IOL, implanted in the sulcus dislocated completely into the anterior chamber without a wound dehiscence or an iris trauma. Sudden positive pressure in the vitreous cavity following blunt trauma behind the iris in an enlarged globe of this high myope could have

pushed the sulcus placed PCIOL into the anterior chamber through a large pupil. Alternatively a lens-iris diaphragm retropulsion (LIDRS) type phenomenon might have occurred, with extreme dilation of the pupil when the cricket ball hit, followed by rebound of the PCIOL into the anterior chamber. The IOL in this patient was inadvertently implanted in the ciliary sulcus. The overall length of the IOL and the optic size were smaller than desired for the sulcus fixation. A small size of the capsulorrhexis opening with the posterior capture of the IOL optic or a suture fixation of the IOL or use of miotics could prevent this complication. Nevertheless, the most important message is to take meticulous care to place an IOL in-the-bag in every case.

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