



Case report

Traumatic superio-nasal subconjunctival dislocation of posterior chamber intraocular lens. A case report

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ABSTRACT

Introduction and importance: Intraocular lens (IOL) implantation after cataract surgery is routine procedure. Traumatic dislocation of the posterior chamber IOL into the subconjunctival space following blunt ocular trauma is rare and it is considered an ophthalmic emergency.

Case presentation: We present a case of a 71-year-old male that presented to our institution with traumatic dislocation of a posterior chamber IOL into the superior-nasal subconjunctival space following blunt trauma to his left eye after an accidental fall on his head.

Discussion: Trauma in a pseudophakic eye can be devastating. Early recognition and treatment of IOL dislocation are of paramount importance to prevent further damage and infections. Half ring sign (Pseudophacocele) recognition help in identifying and localizing the dislocated IOL in subconjunctival space.

Conclusion: Traumatic dislocation of posterior chamber IOLs have been rarely reported in the literature. Nevertheless, it could happen years after implantation.

1. Introduction

Blunt ocular trauma is a very common presentation, and its sequelae can be devastating. As cataract extraction is a widely performed procedure with intraocular lens (IOL) insertion being a common practice, blunt trauma to a pseudophakic eye can lead to dislocation of posterior chamber IOL. However, it is less frequent than anterior chamber IOL and scleral fixated IOL. Previous studies have reported traumatic dislocation of IOL into suprachoroidal space [1], vitreous cavity [2], and subconjunctival space [3–9]. Biedner et al. reported subconjunctival dislocation of anterior chamber IOL [10]. Kothari et al. reported anterior dislocation of scleral fixated IOL, following blunt trauma by a cricket ball [11]. Here, we present a case of a posterior chamber IOL dislocated into the superior-nasal subconjunctival space after being implanted seven years before with a completely sealed incision. This case has not previously been reported in Saudi Arabia. This case report has been prepared and reported in accordance with the SCARE criteria [12].

2. Case report

A 71-year-old diabetic and hypertensive male was referred to our

ophthalmic emergency department with complaints of immediate loss of vision in his left eye, following an accidental fall where he bluntly hit his left eye. The patient underwent extracapsular cataract extraction (ECCE) 7 years ago with polymethylmethacrylate (PMMA) IOL implantation, the patient also underwent a tube surgery in the left eye for primary angle-closure glaucoma 3 years ago.

On ocular examination, his best-corrected visual acuity was 20/80 in the right eye and hand motion in the left eye. Intraocular pressure was measured with tonopen and was 14 in the right eye and 25 in the left eye. Slit-lamp biomicroscopy examination revealed quiet pseudophakic right eye and diffuse conjunctival injection in the left eye with dislocated IOL into the subconjunctival space superior-nasally, no conjunctival or corneal lacerations were found however, layered hyphema was found inferiorly with blood sheet over the iris obscuring the view to the rest ocular structures and the posterior pole (Fig. 1, A–B). A gentle B-scan was performed which showed mild vitreous hemorrhage, intact globe with no evidence of scleral rupture and no retinal or choroidal detachment were found (Fig. 2). Diagnosis of pseudophacocele was made [7]. Eye exploration, IOL removal, and wound revision were planned under general anesthesia. During surgery, nasal conjunctival peritomy was done and IOL was extracted as one piece, further 180 degrees peritomy

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was done and sclera was explored thoroughly along with ECCE wound which was completely sealed with no vitreous or iris incarceration, Ahmad valve tube was found in place. Anterior chamber was found formed and washout was done with minimal manual anterior vitrectomy. The patient was left aphakic, and conjunctiva was sutured with 8-0 vicryl. Two weeks post operatively, the patient's uncorrected visual acuity was hand motion, intraocular pressure of 14mmhg, and the cornea was mildly edematous with a quiet anterior chamber and clear visual axis. Further follow-ups at 6 weeks and 3 months postoperatively, were uneventful with no change in his visual acuity.

3. Discussion

Cataract surgery is one of the most popular surgeries performed and IOL Implantation is standard procedure. When a pseudophakic eye sustains a blunt ocular trauma, the structures of the eye can suffer serious damage. Early recognition and treatment are of paramount importance to prevent further damage and infections. Depending on the severity of the trauma, the IOL can damage the cornea, iris, dislocate or expulse in case of ruptured globe. Posterior chamber IOL can tolerate minor to moderate trauma [6], unlike anterior chamber IOL and iris fixated IOL [10,11]. Despite the rarity of posterior chamber IOL dislocation, various variables could contribute to traumatic IOL dislocation including duration of implant, tensile strength of cataract wound, and severity of the trauma. Furthermore, Large cataract incisions like ECCE, age advancement, and systemic diseases like rheumatoid arthritis and scleritis are factors that can play a role in altering the strength of the sclera and lead to wound dehiscence [6]. Traumatic dislocation of IOL can be into the suprachoroidal space, vitreous cavity, anterior chamber, and subconjunctival space. The subconjunctival dislocation of IOL also referred to as "pseudophacocele" was first described by Biedner et al. in 1977, which reported the golden half-ring sign for easy identification and localization of dislocated IOL in subconjunctival space in cases of open globe injuries associated with dense vitreous hemorrhage [7]. In previous studies, ocular traumas were associated with shortest implant duration where surgical wound did not heal properly and were prone for rupture. Rupture most frequently occurred in the superior-nasal quadrant due to high projection of energy caused by the impact in the temporal region [13,14]. However, what was unusual about our case is that there was no evidence of globe rupture, completely healed ECCE wound which was done 7 years ago and an intact tube.

4. Conclusion

Posterior chamber IOL dislocation is uncommon yet an ophthalmic emergency. In this case, we reported a 71-year-old male who had a traumatic dislocation of the posterior chamber IOL into the

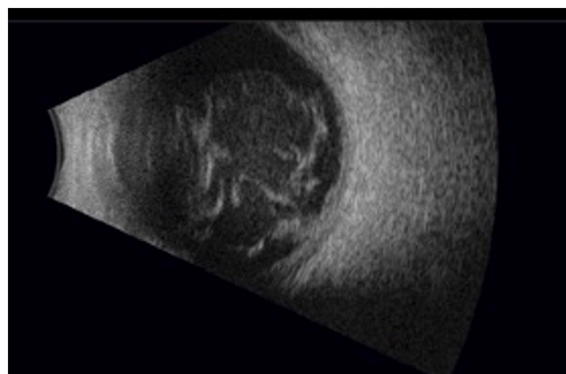


Fig. 2. B-scan ultrasonography of the left eye showing aphakic eye with mild vitreous hemorrhage.

subconjunctival space 7 years after implantation.

Provenance and peer review

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Ethical approval

IRB is not required for case reports. However, information was obtained and reported in a manner that was compliant with the standards set forth by the Health Insurance Portability and Accountability Act, and the Declaration of Helsinki as amended in 2013.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Research registration

Not applicable.

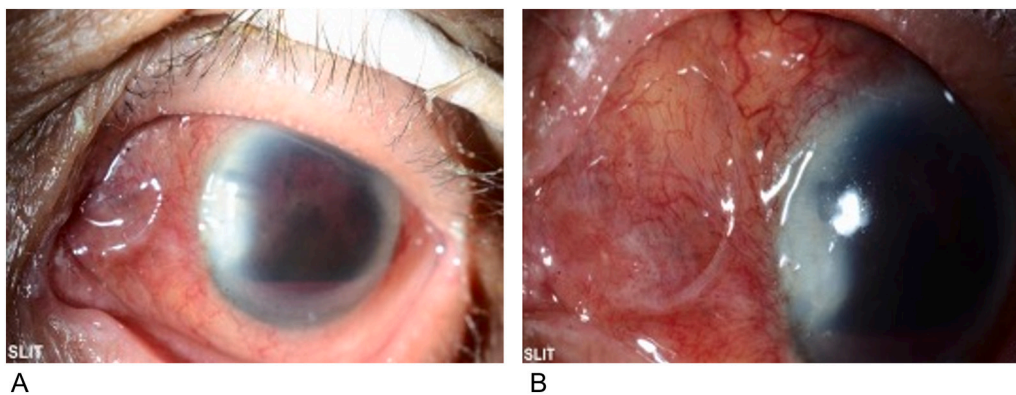


Fig. 1. (A) A slit-lamp biomicroscopy photo of the left eye showing diffuse conjunctival injection, part of the subconjunctival dislocated posterior chamber IOL superior-nasally, inferior hyphema with blood sheets over the iris. (B) A slit-lamp biomicroscopy photo clearly showing the subconjunctival dislocated posterior chamber IOL superior-nasally.

Guarantor

Munirah Z. Aldofyan.

CRedit authorship contribution statement

- Munirah Z Aldofyan: Review of chart for data collection, literature review and first draft of the case report and the corresponding author.
- Abeer A AlHazzani: Review of chart for data collection, literature review and first draft of the case report.
- Khalid F Alshehri: Literature review.
- Hatem Kalantan: The primary treating ophthalmic surgeon providing clinical images. Critical overall review and revision of the manuscript before submission

Conflict of Interest

None.

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