

Inferior subconjunctival dislocation of posterior chamber intraocular lens after blunt trauma

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Traumatic subconjunctival dislocation of the posterior chamber intraocular lens (PCIOL) is a rare and emergency condition. Here, we report an interesting variation of rare case of inferior subconjunctival dislocation of PCIOL in a 75-year-old female patient following blunt trauma to her right eye with cow's head. All the previous literature with subconjunctival dislocation of PCIOL has reported the superior dislocation of intraocular lens. Inferior subconjunctival dislocation has never been reported in previous literature.

Key words: Blunt ocular trauma, inferior subconjunctival dislocation, posterior chamber intraocular lens, pseudophacocele

Ocular trauma is very common, and globe rupture may occur in those patients who have undergone ocular surgery or suffer

from a debilitating condition of the eye. Ocular trauma in pseudophakic eye can lead to dislocation of intraocular lens (IOL). Previous studies have reported traumatic dislocation of IOL into suprachoroidal space,^[1] vitreous cavity,^[2] and subconjunctival space.^[3-7] Biedner *et al.* reported subconjunctival dislocation of anterior chamber IOL.^[8,9] Kothari *et al.* reported anterior dislocation of scleral fixated IOL, following blunt trauma by cricket ball.^[10] Hereby, we report a case of inferior subconjunctival dislocation of posterior chamber IOL (PCIOL) which has not been reported yet.

Case Report

A 75-year-old female patient was referred to our ophthalmic emergency department with complaints of redness, pain, and diminution of vision in her right eye, following trauma with cow's head. The patient underwent small incision cataract surgery with polymethylmethacrylate (PMMA) IOL implantation in both the eyes 4 years back through superior sclerocorneal incision under local anesthesia. Her best-corrected visual acuity was perception of light with inaccurate projection of rays in the right eye and finger count half a meter in the left eye. Ophthalmic examination using slit lamp biomicroscopy of the right eye revealed diffuse subconjunctival hemorrhage with no conjunctival laceration and inferior bulbar conjunctiva showed traumatic pseudophacocele with a sign "golden half ring," suggesting the presence of PCIOL in subconjunctival space [Fig. 1].^[7] There was total hyphema obscuring the view of rest of the ocular structures in her right eye. Her left eye anterior segment was normal. Left eye fundus

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examination with 90 D showed the presence of diffuse choroidal atrophy. Intraocular pressure was 8 mmHg in the right eye and 18 mmHg in the left eye. Gentle B-scan was performed with probe over closed eyelid without applying any pressure to see the condition of retina and vitreous though it is contraindicated in globe rupture; however, in our case, there was occult globe rupture, so we have done it [Fig. 2]. Diagnosis of occult open globe injury with pseudophacole was made. Wound exploration with 360° peritomy, IOL explantation, and wound repair were planned under general anesthesia.

During surgery under local anesthesia, inferior peritomy was done and PMMA PCIOL was extracted out of subconjunctival space [Fig. 3]. Thorough wound exploration was done in inferior quadrant, but no site for globe rupture was detected. Then, 360° peritomy was done and sclera was properly explored. Globe rupture was found at superior quadrant with uveal tissue incarceration in it. Uveal tissue abscission was done with minimal manual anterior vitrectomy and globe was repaired with 10-0 nylon sutures. Anterior chamber wash was done. Conjunctiva was sutured back with 8-0 vicryl [Fig. 4]. Postoperatively, the

patient was good with best-corrected visual acuity was 5/60 with aphakic glasses on 1-month follow-up. Cornea was clear with quiet anterior chamber and diffuse choroidal atrophy was also noted in the right eye; intraocular pressure was 16 mmHg.

Discussion

Although blunt ocular trauma caused by cow's head is a rare phenomenon, it can cause severe damage to the eye. During blunt ocular trauma, the IOL can directly damage the cornea or itself get dislocated, fractured, or even expelled out. Posttrauma, IOL can dislocate to anterior chamber, suprachoroidal space, vitreous space, and subconjunctival space.

The dislocation of PCIOL is rare as compared to anterior chamber or iris fixation lens. There are many predisposing factors leading to traumatic dislocation of PCIOL such as severity of trauma, implant duration, and tensile strength of cataract wound. In comparison to anterior chamber IOL, PCIOL usually tolerates minor to moderate trauma.^[11]

Several factors favor ocular rupture with lens dislocation in the event of traumas, even if these are mild in intensity: Advanced age results in rigid sclera, weakening pathologies in the eye globe

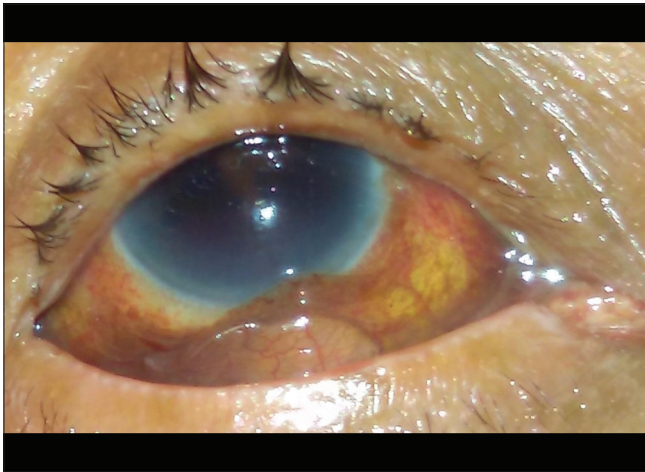


Figure 1: Subconjunctival dislocation of posterior chamber intraocular lens "pseudophacole" in inferior bulbar conjunctiva showing optic and one hepatic

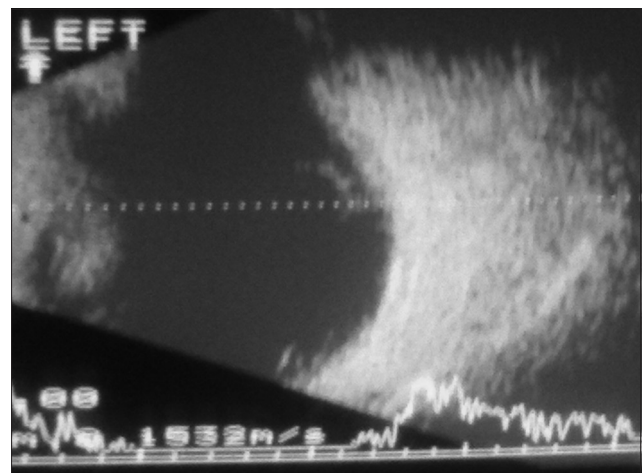


Figure 2: B-scan ultrasonography showing inferior dislocation of intraocular lens with retina attached

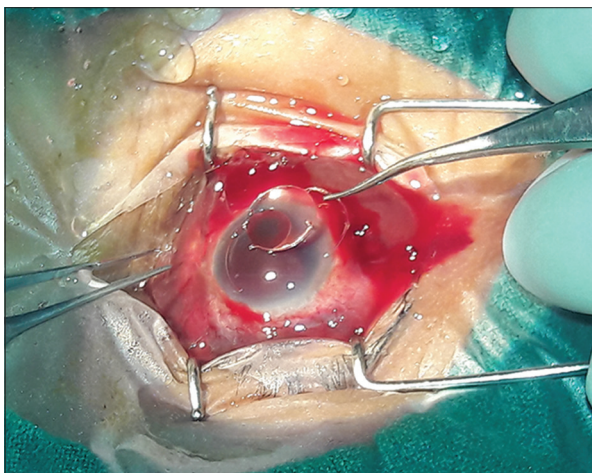


Figure 3: Polymethylmethacrylate posterior chamber intraocular lens extracted from inferior subconjunctival space after doing inferior quadrant peritomy

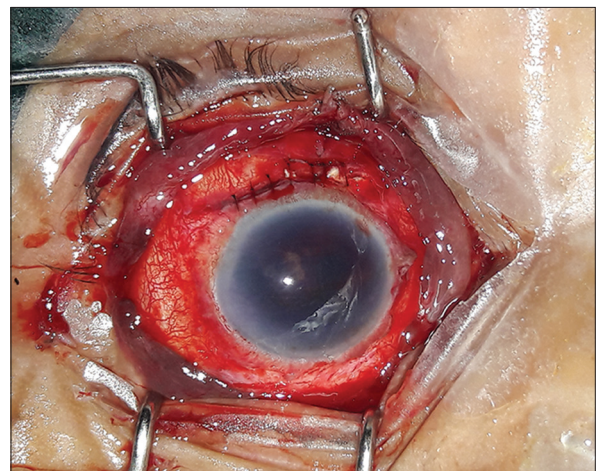


Figure 4: Ruptured globe sutured with 10-0 nylon sutures at superior quadrant near the limbus

such as rheumatoid arthritis, scleritis, or disorders affecting the connective tissue and above all, weakness resulting from prior surgeries, mainly large incisions such as extracapsular cataract extraction. These are the main factors altering the ocular structure and responsible for those weak areas in the comprehensible globe sphere suffering from dehiscence caused by trauma.

Ocular rupture tends to occur in the superior nasal sector due to the projection of energy caused by the impact in the temporal region, where impacts occur more frequently. Energy is projected toward the superior, posterior, and nasal sectors; the globe collides with the trochlea and orbital wall. Rupture usually occurs at 2.5 mm and is concentric to the limbus, where tense and deep sclera fibers are transformed into a delicate lamella of pectineous ligament.^[12,13]

In our case, the posttraumatic globe ruptured at superior quadrant near the limbus with IOL extrusion through same dehiscence, but trauma was such that it dislodged in inferior subconjunctival space may be through potential space in nasal subconjunctiva. This is first reported case with such spurious presentation where globe ruptured at superior quadrant, whereas IOL was localized at inferior subconjunctival space.

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Conflicts of interest

There are no conflicts of interest.

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