

## A rare case of traumatic posterior phacocele with retinal detachment

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Dislocation of crystalline lens into the anterior subconjunctival or subtenon's space is a rare but known complication of blunt trauma. Dislocation into the posterior subtenon's space is even rarer and can be associated with a complication such as occult scleral tear and retinal detachment. We report a case of traumatic posterior subtenon's dislocation of crystalline lens after blunt trauma and its successful surgical management.

**Key words:** Phacocele, retinal detachment, trauma

Traumatic dislocation of crystalline lens into the subconjunctival or subtenon's space, also known as phacocele is a rare complication of blunt trauma. It occurs following indirect rupture of the sclera after blunt trauma.<sup>[1]</sup> The phacocele is usually located in anterior subconjunctival or subtenon's space. Posterior subtenon's dislocation is exceedingly rare and can be very difficult to diagnose. Due to the posterior location of scleral rupture, it is often associated with retinal tears and retinal detachment. We report a case of posterior phacocele after blunt trauma with an occult scleral rupture, retinal detachment, and its successful surgical management.

### Case Report

A 60-year-old male presented to our Outpatient Department with chief complaints of pain and defective vision in the left eye after blunt trauma sustained due to a fall 3 days back. He was not a myope, and there was no history of prior ocular surgery or systemic condition predisposing to a weak sclera. His best-corrected visual acuity was 6/9 in the right eye and perception of light in the left eye. Intraocular pressure was 12 mmHg and 10 mmHg, respectively. On examination, his right eye was within normal limits except for nuclear sclerosis Grade 2. Left eye showed an inferior lid laceration that had been sutured elsewhere, with an intact orbital rim and infraorbital sensation. He had not undergone any other intervention during primary care. The anterior segment showed subconjunctival hemorrhage is not extending posteriorly, corneal edema,

hyphema, and aphakia. Posterior segment examination revealed dense vitreous hemorrhage and no view of the retina.

Left eye ultrasonography showed vitreous hemorrhage with hemorrhagic choroidal detachment (CD) and coexistent retinal detachment. Lens echo was not seen *in situ* or in the vitreous cavity. A well-defined oval mass lesion with high surface and variable internal reflectivity were seen in the orbital space adjacent to the sclera in the superotemporal quadrant suggestive of posterior phacocele [Fig. 1].

After initial conservative treatment with topical steroids and cycloplegics for hemorrhagic CDs, he underwent left eye lens removal with retinal detachment surgery 1 month after initial presentation. After 360° conjunctival peritomy dislocated lens was removed from posterior subtenon's space with minimal manipulation [Fig. 2a and b] and sent for histopathology. A self-sealed scleral rupture [Fig. 2c] was identified in the superotemporal quadrant, just posterior to the spiral of Tillaux extending from 12 to 2 O'clock position. A 360° scleral buckle (#240 solid silicone band) was placed followed by standard 3 port pars plana vitrectomy. Retinal incarceration at the site of scleral rupture was relieved by a limited retinectomy. Retinal reattachment was achieved and silicon oil placed for endotamponade. On the last follow-up, 4 months later, the retina was attached, but the best-corrected vision remained hand movements.

### Discussion

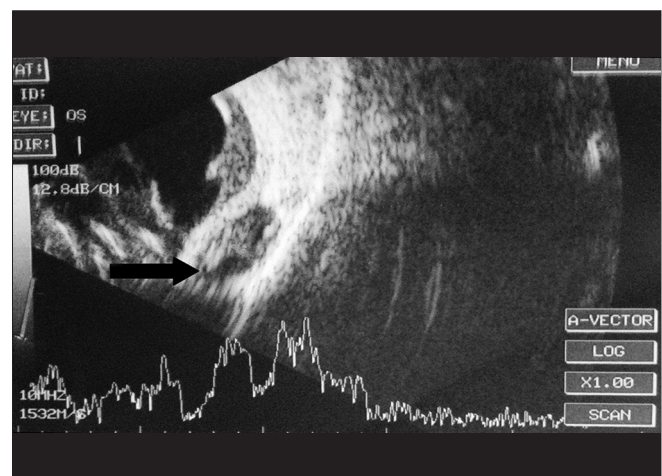
Ocular trauma is a significant cause of visual morbidity. Dislocation of crystalline lens occurs more often into the vitreous cavity. Occasionally, as a result of indirect scleral

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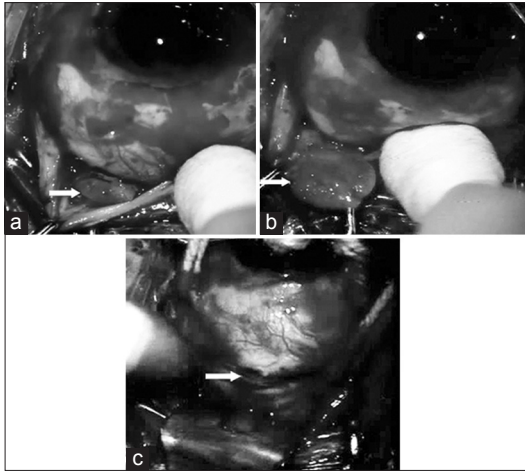


**Figure 1:** B-scan ultrasound of left eye showing posterior phacocele (black arrow)

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**Figure 2:** (a) Intraoperative photo showing extraction of crystalline lens from superotemporal subtenon's space (white arrow). (b) Completely extracted crystalline lens (white arrow). (c) Self-sealed scleral rupture, just posterior to the spiral of Tillaux extending from 12 to 2 o'clock position (white arrow)

rupture due to blunt trauma, the crystalline lens is extruded into the subconjunctival or subtenon's space, called a phacocoele. The first reported case was in 1928 by Fejer.<sup>[1]</sup> All reports of phacocoele are rare and have been reported several decades ago.

The most common site of dislocation is superonasal, followed by superotemporal and inferior.<sup>[2]</sup> Arlt's theory states that blunt trauma lessens the diameter in the line of impact and secondarily causes an increase in diameter of the equator to this line.<sup>[1,3]</sup> In our case, the scleral rupture was just posterior to the spiral of Tillaux, the third most common site for such injuries.<sup>[2]</sup> It usually occurs in elderly above 40 years<sup>[1]</sup> as a well-formed crystalline lens and rigid sclera are said to be prerequisites for the same, but has been reported even in a child as young as 11 years.<sup>[4]</sup> It can occur after trivial trauma in eyes with previous surgery<sup>[5]</sup> or with systemic conditions causing weak sclera.<sup>[6]</sup>

Due to the posterior location of scleral rupture, posterior phacocoele can be associated with retinal tears and retinal detachment. The management is complex involving removal of dislocated lens, scleral tear repair, and retinal detachment surgery. Visual outcomes are variable. In a case series of traumatic anterior phacocoele by Bhattacharjee *et al.*,<sup>[4]</sup> only two patients out of eight could achieve a final visual outcome of 20/20.

To the best of our knowledge, this is the first case reported of successful surgical management of posterior phacocoele

and retinal detachment in the same sitting. There is only one reported a case of posterior phacocoele by Stoller *et al.*,<sup>[7]</sup> where the scleral tear was repaired primarily followed by retinal detachment surgery later. The lens was not removed in this case.

This case highlights the importance of high suspicion for traumatic crystalline lens dislocations in cases where it is not visible by routine examination. A well-formed globe can be misleading in such cases of occult scleral ruptures. Most cases of occult scleral rupture have hypotony,<sup>[8]</sup> except for one case in a series by Yurdakul *et al.*<sup>[9]</sup> A meticulously performed B-scan can be very helpful in such cases to rule out posterior phacocoele.

Optimal outcomes in a case of trauma can be achieved by thorough evaluation along with meticulous attention to various investigative modalities available. In this case, a missing crystalline lens in an eye without prior surgery and no obvious scleral rupture was located due to careful ultrasound.

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#### Conflicts of interest

There are no conflicts of interest.

#### References

1. Fejer J. Subconjunctival lens dislocation. *Am J Ophthalmol* 1928;11:354-6.
2. Cherry PM. Indirect traumatic rupture of the globe. *Arch Ophthalmol* 1978;96:252-6.
3. Lister W. Some concussion changes met with in military practice. *Br J Ophthalmol* 1924;8:305-318.
4. Bhattacharjee K, Bhattacharjee H, Deka A, Bhattacharyya P. Traumatic phacocoele: Review of eight cases. *Indian J Ophthalmol* 2007;55:466-8.
5. Foroutan AR, Gheibi GH, Joshaghani M, Ahadian A, Foroutan P. Traumatic wound dehiscence and lens extrusion after penetrating keratoplasty. *Cornea* 2009;28:1097-9.
6. Sharma Y, Sudan R, Gaur A. Post traumatic subconjunctival dislocation of lens in Ehlers-Danlos syndrome. *Indian J Ophthalmol* 2003;51:185-6.
7. Stoller GL, Barone R, Fisher YL. Traumatic dislocation of the lens into posterior Tenon's space. *Retina* 1997;17:557-8.
8. Sathish S, Chakrabarti A, Prajna V. Traumatic subconjunctival dislocation of the crystalline lens and its surgical management. *Ophthalmic Surg Lasers* 1999;30:684-6.
9. Yurdakul NS, Ugurlu S, Yilmaz A, Maden A. Traumatic subconjunctival crystalline lens dislocation. *J Cataract Refract Surg* 2003;29:2407-10.