

Traumatic Phacocele- A Case Report

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Abstract

A blunt trauma can result in a scleral rupture with subsequent crystalline lens dislocation through the ruptured sclera into the subconjunctival or Tenon's space termed as phacocele. In the event of blunt trauma, the eyeball behaves like a fluid-filled incompressible structure, and whenever a force sufficient enough in magnitude hits the eyeball, it can either cause a scleral rupture at the site of impact (direct injury) or somewhere else (indirect injury) associated rarely with dislocation of lens into the subconjunctival or Tenon's space. Here, we report a case of Left eye traumatic phacocele due to trauma by bull's horn with no history of previous trauma, ocular surgery, or Myopia.

Keywords: Phacocele, Scleral rupture, Traumatic phacocele, Blunt trauma, Lens dislocation.

INTRODUCTION

A 54 year old female presented to our OPD complaining of sudden vision diminution for 12 hours. She gave a history of trauma by bull's horn before the onset of symptoms. There was no history of any systemic illness or prior ocular surgery in the past. Her vision is 6/12 in her right eye and her finger counts close to her face in left eye with an accurate perception of rays in all four quadrants. Intraocular pressure was 17.3 mmHg in the right eye and 10.2 mmHg in left eye.

There was no abrasion, ecchymosis or laceration in the left periorbital region.

The cornea was clear with a well-circumscribed subconjunctival swelling measuring 10 X 8.5 mm, extending from 11 to 1 o'clock just superior to the superior limbus (Figure 1).

USG B-Scan showed the absence of a lens in the patellar fossa or in the posterior segment with no apparent posterior segment pathology (Figure 2).

The patient was planned for surgical removal of the crystalline lens with the repair of the scleral wound. Superior limbal peritomy was made and the uveal tissue prolapsing through the defect was abscised. The crystalline lens was meticulously dissected from the vitreous using a pair of Vannas scissors. The prolapsed vitreous from the wound site was lifted gently using a cotton swab and trimmed. Suturing of the scleral defect was done by nylon 8-0 sutures. The patient was left aphakic and was followed up on oral and topical

steroids and antibiotics (Tab ciprofloxacin 200 mg BD for 5 days). 2 weeks after repair of the wound, the patient underwent ACIOL implantation.

The patient's BCVA at 2 weeks of ACIOL implantation was 6/36 on Snellen's chart, and at one month was 6/12.

DISCUSSION

The term phacocele is derived from a Greek word, where 'phaco' denotes lens and 'kele' means herniation. It is an unusual and very rare clinical condition. Phacocele refers to subconjunctival or sub-tenon dislocation of the crystalline lens. It was first reported by Fejér in 1928.¹ Phacocele has been reported to comprise 13% of all lens luxations.² The eye has been described to behave like an incompressible sphere because of its liquid contents.³ Therefore, a blunt force of sufficient magnitude will result in a transient rise in intraocular pressure thereby rupturing the sclera, and in rare cases a dislocation of crystalline lens through the defect into the subconjunctival or Tenon's space. In our case, the blunt trauma from the horn would have acted like a closed globe

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Figure 1: Superior migration of crystalline lens in the subconjunctival space.



Figure 2: USG B-Scan of left eye showing absence of lens echoes behind patellar fossa or in the vitreous cavity



Figure 3: Post-op after lens extraction and scleral perforation repair

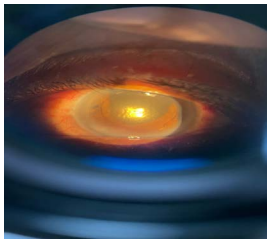


Figure 4: 1st post-op day after implantation of ACIOL.



Figure 5: 2 weeks post-op

injury suddenly increasing the intraocular pressure and giving away the sclera with associated lens dislocation.

Most of the dislocation with scleral ruptures occur supero-nasally⁴ followed by superior and supero-temporal quadrant. It is seen most commonly due to scleral rigidity, hard crystalline lens, thinned sclera as in myopes or any previous surgeries. Intraocular pressures are almost always towards the lower

side at the time of presentation. Phacocele is uncommon in children because of soft lens and elasticity of outer layers and frequently occurs in elderly aged >40 years as was observed by Fejér. Phacoceles have been reported after various types of blunt trauma impacts like by wood piece, coconut leaf, metallic rod,⁵ own finger,⁶ post surgeries like goniotomy,⁷ trabeculectomy,⁸ or systemic conditions.⁹ Spiral of Tillaux is the most common site of scleral rupture (Figures 3-5).³

Though most common victims of blunt trauma are young individuals, phacocele is seen much more frequently at a later age because of the increased scleral rigidity and hard crystalline lens.¹⁰

Phacocele refers to subconjunctival or sub-Tenon's dislocation of crystalline lens. It was first reported by Fejér as a protruding, incompressible sphere occurs supero-nasal.

CONCLUSION

Any case of blunt injury, however trivial it may be, with the absence of a crystalline lens in its natural place, should be suspected for phacocele. Complete ocular examination on slit lamp, intraocular pressure measurement and investigation like B-scan ultrasonography become useful to rule out any associated retinal/choroidal detachment or vitreous hemorrhage and is also helpful to assess the location of lens in relation to the globe. With timely presentation of the patient a prompt and correct method of intervention, traumatic phacocele can be managed with a good visual prognosis.

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