



## Lens Subluxation Following Trivial Trauma

Aakanksha Sharma<sup>1</sup>, Neha Mohammed<sup>2</sup>, Kritika Katoch<sup>3\*</sup>

<sup>1</sup>Medical officer, Department of Ophthalmology, Zonal hospital, Dharamshala, Himachal Pradesh, India.

Email: sharmaaakanksha1987@gmail.com,

Orcid ID: 0000-0001-9784-1495

<sup>2</sup>Medical officer, Department of Ophthalmology, Civil hospital Kangra, Himachal Pradesh, India.

Email: nehamohammed0@gmail.com,

Orcid ID: 0000-0002-7220-8199

<sup>3</sup>Medical officer, Department of Ophthalmology, Zonal hospital, Dharamshala, Himachal Pradesh, India.

Email: katochkritika14@gmail.com,

Orcid ID: 0000-0001-6316-6292

\*Corresponding author

Received: 28 October 2022

Revised: 30 November 2022

Accepted: 15 December 2022

Published: 28 February 2023

### Abstract

Trauma is the main cause of subluxation or dislocation of the lens followed by ocular surgery and spontaneous dislocation due to hypermature cataract. Other causes are Marfan's, Homocystinuria, Ehler Danlos syndrome and pseudoexfoliation. We report a case of dislocated lens by a trivial trauma with a wooden stick which was left unattended unless patient noticed decreased vision in that eye.

**Keywords:-** Subluxation of lens, Trivial trauma, zonules.

## INTRODUCTION

Ectopia lentis is the displacement of the crystalline lens of the eye. The dislocated lens may lie over the retina, remain suspended in the vitreous or it may come anteriorly in the anterior chamber. The most common cause of dislocated crystalline lens is the trauma followed by surgery.<sup>[1]</sup> Disruption of the zonular fibres is the main pathology behind the dislocation or subluxation of the crystalline lens. Ocular trauma and surgery exert an external force on the lens zonular fibers leading to lens dislocation or subluxation.<sup>[2]</sup> Thus, these direct external forces results in monocular lens dislocation or subluxation. While in other causes for example Mrafan's syndrome have

binocular lens and zonular dysplasia, usually accompanied by systemic manifestations.

## CASE REPORT

A 50 year old male patient presented with chief complaints of diminution of vision in the right eye from last 4 months which was painless and sudden in onset. There was no history of diabetes mellitus, hypertension or any other drug intake. There was history of trivial trauma with wooden stick over the right upper eyelid preceding the diminution of the vision. Patient was using lubricant eyedrops and no medical consultation was taken for these complaints. On general examination, patient was of average built. On ophthalmological examination, the patient was only perceiving light in his right eye while the visual acuity was 6/6 in the left eye.

The pupils were reacting normal to the light. The intraocular pressure was 28 mmHg in the right eye and 14 mmHg in the left eye. Slit lamp examination showed iridodonesis and inferior dislocation of the cataractous lens in the right eye which was freely moving with the eye movement and clear lens in the left eye. Gonioscopy of the right eye showed 360 degree of angle recession. On fundus examination, cup disc ratio was 0.9 in the right eye and 0.3 in the left eye. Visual prognosis was explained to the patient and antiglaucoma medications (beta blockers) were started in the right eye to lower down the intraocular pressure. After two weeks, intraocular pressure was 15 mm of Hg the right eye. Visual prognosis was explained to patient. As there was no capsular or zonular support, surgery with scleral fixated intraocular lens was done in this patient.



## DISCUSSION

Blunt trauma to the eye results in a sudden compression of the globe with expansion of the globe at the equator. This may manifest as sphincter tears of the pupil, iridodialysis, angle recession, cyclodialysis, retinal tears, commotio retinae etc. Damage to the zonular fibers results in the dislocation or subluxation of the crystalline lens. The degree of zonular fibers determine intervention required. Also, associated injuries are the disruption major

determination factor in deciding the intervention required and the visual prognosis. In the absence of the crystalline lens capsule or zonular support other options are: the anterior chamber intraocular lens (AC-IOL) supported by the anterior chamber angle, the iris claw lens and the iris-sutured posterior chamber intraocular lens (PC-IOL), scleral fixated intraocular lens. Associated secondary glaucoma limits the visual recovery in this patient. Elevated intraocular pressure due to blunt trauma with lens subluxation/dislocation may be due to the following factors: crystalline lens dislocates into the anteriorly leading to pupillary block; vitreous prolapse leading to pupillary block; with the coexistence of hyphema and vitreous hemorrhage; coexistence of the anterior chamber angle injury, the anterior

chamber angle recession, trabecular meshwork inflammation, edema etc.<sup>[3]</sup> Thus, multiple manifestations of the eye trauma can occur and we should do complete ophthalmological examination even though patient came with a particular complaint.

## CONCLUSIONS

Lens subluxation is common finding after blunt trauma to the face or eye. Even a trivial trauma can have catastrophic effects on the eye. Visual prognosis in these patients depends upon associated injuries in the eye like secondary glaucoma, retinal tear etc. Thus, a trivial trauma should not be ignored and one should consult ophthalmologist immediately after trauma.

## REFERENCES

1. Huang H, Greven MA. Traumatic Lens Subluxation From Pickleball Injury: A Case Series. *Retin Cases Brief Rep.* 2022. doi: 10.1097/ICB.0000000000001312.
2. Wang M, Gao Y, Li R, Wang S. Monocular lens dislocation due to vomiting-a case report. *BMC Ophthalmol.* 2018;18(1):3. doi: 10.1186/s12886-017-0651-8.
3. Wang R, Bi CC, Lei CL, Sun WT, Wang SS, Dong XJ. Multiple methods of surgical treatment combined with primary IOL implantation on traumatic lens subluxation/dislocation in patients with secondary glaucoma. *Int J Ophthalmol.* 2014;7(2):264-72. doi: 10.3980/j.issn.2222-3959.2014.02.13.

Source of Support: Nil, Conflict of Interest: None declare