

A CASE REPORT OF SIMPLE SURGICAL INTERVENTION FOR TRAUMATIC ANTERIOR DISLOCATION OF LENS

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HOW TO CITE THIS ARTICLE: Bhimalli S, Pallavi BA, Sujatha V, et al. A case report of simple surgical intervention for traumatic anterior dislocation of lens. J. Evolution Med. Dent. Sci. 2019;8(28):2301-2302, DOI: 10.14260/jemds/2019/504

PRESENTATION OF CASE

A generally healthy 51-year-old male came to OPD with history of trauma with wooden stick to the left eye three days back after which he developed sudden painful loss of vision in the left eye. A general physical examination revealed no other abnormality. The patient's medical history and family history were unremarkable, with no other treatment taken for eye for other conditions. The right eye was generally unremarkable with no significant findings such as any loss of zonules, lens dislocation. His best corrected visual acuity in right eye was 6/6 with -1.00 DS/-0.50 DC at 110 degrees and gonioscopic examination revealed no angle anomalies. Fundus examination was within normal limits.

Left eye visual acuity was perception of light and projection of rays positive in all quadrants. A slit lamp bio microscopy examination revealed upper and lower lid oedema, circumciliary congestion, mild corneal oedema, a crystalline lens in the anterior chamber (as shown in Image 1) touching corneal endothelium with no zonules attached to it. The IOP was 14 mmHg and 38 mmHg in right and left eye respectively. The axial length on A-scan was 23.38 and 23.24 mm in right and left eye respectively. No signs of pseudoexfoliation syndrome was seen.

A healthy 51-year-old male came with history of wooden stick trauma to his left eye three days back after which he developed sudden painful loss of vision in the left eye. Left eye visual acuity was perception of light and projection of rays positive in all quadrants and anterior segment showed dislocated crystalline lens in anterior chamber touching corneal endothelium with raised intraocular pressure. Simple separation of lens from corneal endothelium and intracapsular lens extraction was done by visco-expression followed by anterior vitrectomy, peripheral iridectomy and Iris claw lens implantation. Visual acuity improved from perception of light to 6/9 post operatively.

Blunt trauma of eye can cause various complications. These include lens subluxation, angle recession, secondary glaucoma, hyphema, commotio retinae, retinal detachment, macular hole formation and choroidal rupture.^{1,2}

Lens dislocation might occur in various hereditary diseases, after trauma or spontaneously.^{3,4}

'Financial or Other Competing Interest': None.

Submission 27-11-2019, Peer Review 25-06-2019,

Acceptance 02-07-2019, Published 15-07-2019.

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DOI: 10.14260/jemds/2019/504



Dislocation of crystalline lens due to trauma is not rare but usually dislocates into the vitreous and rarely into the anterior chamber. Other reasons where subluxation of lens commonly seen are Marfan's syndrome, homocystinuria, spherophakia, hyperlysinuria, retinitis pigmentosa, sulfite oxidase deficiency.^{5,6,7,8,9,10,11,12}

To avoid potential complications, such as ocular hypertonia, corneal decompensation, and inflammation surgical removal is essential. Previously done reports have recommended intracapsular phacoemulsification, cryoextraction with limbal incision and intracapsular lens extraction, however the risk of intraoperative expulsive haemorrhage is quite high.^{5,6,13}

We report traumatic anterior dislocation of lens which was successfully and economically treated by simple surgical intervention and yet good visual outcome was noted postoperatively.



Image 1. Left Eye with Anterior Dislocation of Crystalline Lens



Image 2. Iris Claw Lens with Peripheral Iridectomy

FINAL DIAGNOSIS

Traumatic anterior dislocation of lens with secondary angle closure glaucoma.

DISCUSSION OF MANAGEMENT

The patient was admitted to the male ophthalmology department of our Hospital and received intravenous mannitol and oral acetazolamide to lower the IOP. Topical antibiotics and also pilocarpine drops were given preoperatively to avoid

posterior dislocation of lens. The patient was planned for lens extraction during stay. Surgery was scheduled for the following morning.

A 6 mm corneoscleral incision was made and high molecular viscoelastic substance was injected through a side port to release contact between cornea and dislocated lens. Intracapsular lens extraction was done by visco-expression. Herniated vitreous was removed by anterior vitrectomy. Preventive peripheral iridectomy was done and Iris claw lens implanted.

On post-operative day one there was subconjunctival haemorrhage, ciliary congestion, mild corneal oedema and visual acuity was 6/24. Post-operative one week no complications were seen (as shown in Image 2) and visual acuity was 6/12. No other significant complications were noted, and he achieved a BCVA of 6/9 after 3 months post-operative follow up.

PATHOLOGICAL DISCUSSION

The dislocation of the crystalline lens have been reported to be due to hereditary diseases, trauma and spontaneous occurrence.¹⁴ Luxation of lens in hereditary diseases have been associated with other systemic anomalies (e.g. Marfan's syndrome, Weil- Marchesani syndrome, homocystinuria).^{6,14,15} Traumatic crystalline lens dislocation is not rare but usually lens dislocates into the vitreous and rarely into the anterior chamber. This was a case of traumatic anterior dislocation of lens. Such anterior dislocation of the lens can cause complications such as corneal endothelial damage, pupillary block, which may lead to the angle closure glaucoma. Here in this case increase in IOP was noted.

Previously done studies have recommended the surgical removal of a lens when dislocation is seen into the anterior chamber as soon as possible to prevent severe complications.^{6,8,16} Choi et al reported lensectomy using the closed chamber technique and anterior vitrectomy.^{6,14,15} This technique reduces risk of expulsive hemorrhage with sudden decrease in IOP. Seong et al recommended phacoemulsification with anterior vitrectomy.¹³ Peyman et al suggested vitrectomy with scleral incision.¹⁶ and Jaffe et al suggests cryoextraction through a limbal incision.⁷ In this case, we chose to do intracapsular lens extraction to prevent dissemination of lens fragments in the vitreous cavity. Lens was extracted by visco-expression to prevent damage to endothelial cells during extraction and minimize corneal oedema and maintain its transparency and iris claw lens was implanted.

On post-operative day one subconjunctival haemorrhage, ciliary congestion, mild corneal oedema and visual acuity was 6/24. Post-operative one week no complications were seen, and visual acuity was 6/12. No other significant complications were noted, and he achieved a BCVA of 6/9 after 3 months post-operative follow up.

CONCLUSIONS

We report it as successful and economical treatment of a case of intracapsular lens extraction of traumatic anterior dislocated lens by simple extraction of clear lens with viscoelastic substance (visco-expression), anterior vitrectomy, peripheral iridectomy and Iris claw lens implantation. Even

after using the simplest technique, good visual outcome was noted.

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