

Bilateral Spontaneous Crystalline Lens Dislocation to the Anterior Chamber: A Case Report

Miloš Jovanović^{1,2}

¹School of Medicine, University of Belgrade, Belgrade, Serbia;

²Clinic of Eye Diseases, Clinical Center of Serbia, Belgrade, Serbia

SUMMARY

Introduction There are various reasons for the lens dislocation. Spontaneous dislocation of a clear lens is extremely rare, especially its dislocation to the anterior chamber.

Case Outline The author presents a case of spontaneous clear lens dislocation to the anterior chamber in both eyes in a patient without the history of any trauma. Dislocation occurred spontaneously, first in the left eye, along with a sudden decrease of vision. The ophthalmologist found a clear lens in the anterior chamber, without any sign of an elevated intraocular pressure, as should have been expected. The dislocated lens was removed surgically (intracapsular extraction) with the preventive basal iridectomy. Two years later, the same happened in the right eye: clear lens moved spontaneously to the anterior chamber, with a decrease of vision, but again without any rise of intraocular pressure and/or any pain. Intracapsular extraction of the lens with basal iridectomy was done again.

Conclusion The presented case demonstrates that spontaneous dislocation of the transparent lens to the eye anterior chamber can occur in both eyes at different time intervals. We suggest the removal of dislocated lens in the anterior chamber by the intracapsular extraction.

Keywords: bilateral spontaneous clear lens dislocation; anterior chamber; surgery

INTRODUCTION

There are various reasons for the lens dislocation: injuries, congenital and hereditary disorders including Marfan's and Weill-Marchesani syndrome, homocystinuria, retinopathia pigmentosa, spherophakia, and there still remain the cases of spontaneous lens dislocations caused by other or unknown reasons [1, 2]. Spontaneous dislocation of a clear lens is extremely rare, especially its dislocation to the anterior chamber. We have already presented such a case [3].

Two years later, the same patient developed spontaneous dislocation of the transparent lens to the anterior chamber in the other eye. To the best of our knowledge, this should be the first case of a clear lens dislocation to the anterior chamber in both eyes. It was the reason for this presentation, with the report of surgical treatment of the case.

CASE REPORT

A 17-year-old male with normal mental and physical status was admitted because of sudden reduction of vision in his left eye two months before. There was no pain in the eye. On admission, best corrected visual acuity in his right eye was 1.0 with -1.0 Dsph and 0.1 in his left eye, where optical correction was not possible. The intraocular pressure was 13 mmHg on the right, and 14 mmHg on the left side. Echobiometry showed axial length of the

eyeballs to be 23.37 mm right, and 23.21 mm left. On slit-lamp examination, there was a clear lens dislocated to the anterior chamber (Figure 1A). Ocular media were transparent, while the fundus appearance was normal. There was no history of trauma.

The patient mentioned that the lens could be moved back by a finger pressure, or by some special movements of the head, but we did not allow the patient to demonstrate such a maneuver.

It was decided to remove dislocated lens through an adequate corneoscleral incision, in general anesthesia. Ten minutes before operation, 1% pilocarpine solution was administered topically, to narrow the pupil in order to avoid posterior movement and sinking of the lens in the vitreous, once the patient took a horizontal position on the operation table. However, soon after the instillation of pilocarpine, our patient complained of severe pains in the eye and the left hemicranium, and onset of the acute angle closure glaucoma due to pupillary block was diagnosed (Figure 1B), with "iris bombans", ciliary injection of the limbal vessels and a semimydratric pupil.

The upper conjunctiva was opened surgically and „o" corneoscleral incision from 11-2 o'clock was done, and the lens was then extremely carefully removed instrumentally (intracapsular extraction – ICCE). Preventive basal iridectomy at 12 o'clock position was performed. A continuous recurrent 10.0 nylon suture was placed to close the incision and the air was insufflated to restore the anterior chamber (Figure 1C). Extracted lens was clear (Figure

Correspondence to:

Miloš JOVANOVIĆ
Klinika za očne bolesti
Klinički centar Srbije
Pasterova 2, 11000 Beograd
Srbija
milosjovanovic951@gmail.com



Figure 1. Left eye. **A:** Preoperative condition – clear natural lens dislocated to the anterior chamber. **B:** After the instillation of pilocarpine, on the operating table, sudden onset of the acute angle closure glaucoma due to a pupillary block, with the ciliary perlimbal hyperemia, iris bombans and semi-mydriasis. **C:** Immediately after the operation – corneoscleral sutures, basal iridectomy, air bubble in the anterior chamber and narrow pupil. **D:** Extracted clear lens.

1D). Postoperative course was uneventful, and a contact lens was used for the optical correction of aphakia.

Two years later, the same patient appeared again with the very same problem in his right eye: sudden spontaneous loss of vision without any pain. Clear lens in the anterior chamber was found on the slit lamp examination (Figure 2A). The same was confirmed by ultrasound biomicroscopy (UBM) (Figure 2B). The patient stated again that he was able to move the mobile lens posteriorly by changing the position of his head or by finger pressure through the closed eyelids (Figure 3A). After such maneuver, his anterior chamber became somewhat deeper, but without any trace of vitreous in it, and the pupil remained round (Figure 2C). By ultrasound, the lens could be located inside the vitreous in those moments (Figure 2D). Simple

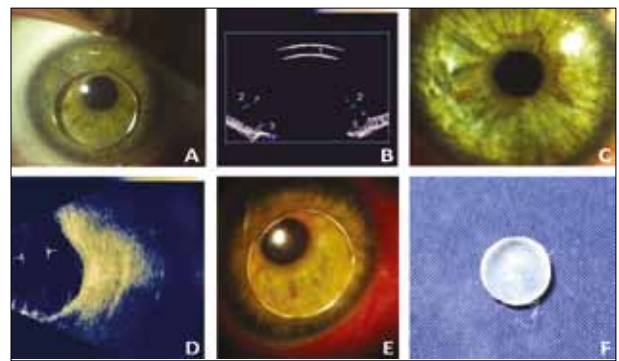


Figure 2. Right eye. **A:** Preoperative condition – clear natural lens dislocated to the anterior chamber. **B:** UBM finding of the lens in the anterior chamber. Cornea (1), anterior surface of the dislocated lens (2), iris pushed posteriorly (3). **C:** Normal appearance of the anterior chamber after the lens moved to the vitreous. **D:** B-scan findings – arrows pointing to the anterior and the posterior surface of the lens in the vitreous cavity. **E:** Situation after the instillation of pilocarpine on the operating table: signs of the acute angle closure glaucoma due to pupillary block, with the ciliary perlimbal hyperemia, iris bombans and semi-mydriasis. **F:** Extracted natural clear lens.

downward bowing of the head moved the lens back to the anterior chamber again (Figure 3B).

Considering our positive experience from the first surgery, we repeated the same procedure. To prevent posterior movements of the lens in the horizontal position on the table, the pupil was narrowed with the pilocarpine 1% once more, and again with the same result: pupillary block with the acute angle closure glaucoma attack (Figure 2E). Surgical procedure that followed was the same, with a basal iridectomy again. Extracted lens was clear (Figure 2F).

DISCUSSION

Bilateral spontaneous dislocation of the clear lens to the anterior chamber is very rare. It was reported as a complication in patients with Retinopathia pigmentosa [4]. We are presenting a case of the bilateral spontaneous disloca-



Figure 3. Situations of spontaneous excursions of the lens. **A:** Throwing back of the head and finger pressure through the upper lid in order to move the lens posteriorly from the anterior chamber. **B:** Simple bowing of the head downward moves the lens back to the anterior chamber.

tion of the clear crystalline lenses to the anterior chamber and a successful surgical treatment of the problem. To the best of our knowledge, this is the first report of such a case without any other ophthalmic disorders or history of injury. It is interesting that in our patient dislocated lenses were mobile, and could move willingly from the anterior chamber to the vitreous and back, the pupil remaining round and normally wide, without any endothelial damage, corneas being perfectly clear, and without any vitreous to be seen in the anterior chamber. We have no explanation whatsoever for the lack of any visible defect of the anterior hyaloid membrane or vitreous prolapse. Posterior dislocation of the lens to the vitreous with excursions to the anterior chamber was observed by Schäfer et al. [5] in two patients, but in both cases - as a consequence of trauma, and with vitreous present in the anterior chamber.

Lens dislocation to the anterior chamber is usually followed by complications such as: corneal edema, acute onset of glaucoma caused by papillary block, or an anterior uveitis, so that the lens should be removed urgently. Jaffe and Jaffe [6] strongly recommended cryoextraction

through the limbal incision, while Peyman et al. [7] suggested vitrectomy through the scleral incision. Seong et al. [8] proposed phacoemulsification with the anterior vitrectomy.

We did a corneoscleral incision and ICCE both times in our patient. There was no need for anterior vitrectomy, because there was no free vitreous. Basal iridectomy at 12 o'clock was done both times, as a precaution. Postoperative recovery was fast and successful.

The extracted lenses were clear and round shaped, due to the internal elasticity (young person!) and the absence of zonular equatorial traction.

We did not implant artificial intraocular lenses, considering young age of the patient and a possibility of good optical correction with contact lenses, which proved to be a good choice later on.

The presented case demonstrates that spontaneous dislocation of the transparent lens to the eye anterior chamber can occur in both eyes at different time intervals. We suggest removal of dislocated lens in the anterior chamber by the intracapsular extraction.

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Обострана спонтана луксација природног сочива у предњу очну комору: приказ болесника

Милош Јовановић^{1,2}

¹Медицински факултет, Универзитет у Београду, Београд, Србија;

²Клиника за очне болести, Клинички центар Србије, Београд, Србија

КРАТАК САДРЖАЈ

Увод Постоје различити разлози за луксацију провидног сочива. Спонтана луксација провидног сочива је веома ретка, посебно луксација у предњу очну комору и луксација на оба ока.

Приказ болесника Приказујемо случај спонтане луксације провидног сочива у предњу очну комору на оба ока код болесника који у анамнези није имао повреду ока. Луксација је настала најпре на левом оку, а болесник се јавио офталмологу због изненадног слабљења вида. Утврђено је да је сочиво идеално провидно и да не постоје знаци акутног повећања интраокуларног притиска, што се очекује када се провидно сочиво луксира у предњу очну комору. Операцијом је сочиво у целости (интракапсуларно) уклоњено и у

истом акту је извршена превентивна базална иридектомија. Две године касније поновила се иста епизода и на десном оку: провидно природно сочиво је луксирано у предњу очну комору, што је било праћено падом видне оштрине, али без повећања интраокуларног притиска и без болова у оку. Као и на претходном оку, извршена је интракапсуларна екстракција сочива са базалном иридектомијом.

Закључак Спонтана луксација провидног сочива у предњу очну комору може се јавити на оба ока у различитим временским интервалима. Предлажемо да се сочиво из предње очне коморе уклони у целини методом интракапсуларне екстракције.

Кључне речи: обострана луксација природног сочива; предња очна комора; операција