

Spontaneous absorption of the lens: A case report

Prajakta Dandekar

Department of Ophthalmology, Graded Specialist, Military Hospital, Gwalior, Madhya Pradesh, India.

Abstract

Spontaneous absorption of the natural lens is rare. A fifty-six-year-old lady came to the Eye Dept with a chief complaint of gradual, painless and progressive diminution of vision in the left eye since last ten years. Undilated anterior segment examination revealed a mature cataract, and on dilatation an opaque calcified anterior lens capsule in the centre and translucent capsule with calcified spots in the peripheral part was visible. Neodymium-doped Yttrium Aluminum Garnet (Nd YAG) laser capsulotomy of the anterior capsule allowed us to examine the posterior segment. No nucleus or lens particle found in the posterior segment. Ultrasound B scan also revealed absent nucleus. After anterior vitrectomy, we implanted IOL through a 6mm scleral tunnel. Postoperatively, the patient's vision improved to 6/6. Unrecognised capsular tears with unnoticed ocular inflammation can lead to spontaneous lens absorption as in our case evident from the capsular calcification.

Delhi J Ophthalmol 2021;31; 77-78; Doi <http://dx.doi.org/10.7869/djo.632>

Keywords: Spontaneous, Absorption, Lens, Intraocular lens

Introduction

Absorption of a natural crystalline lens is very rare. It can be spontaneous; or it may be associated with conditions like maternal Rubella, Leptospirosis, uveitis, Persistent Hyperplastic Primary Vitreous (PHPV), Hallerman- Streif-Francois syndrome, Down syndrome, and morgagnian cataract.¹ J.C.Saunders (1811) mentioned his possibility of spontaneous absorption, and since then, various authors have presented their case reports. However, calcified and opaque anterior lens capsule in the centre with a wholly absorbed lens matter and well preserved capsular support makes this case unique.²

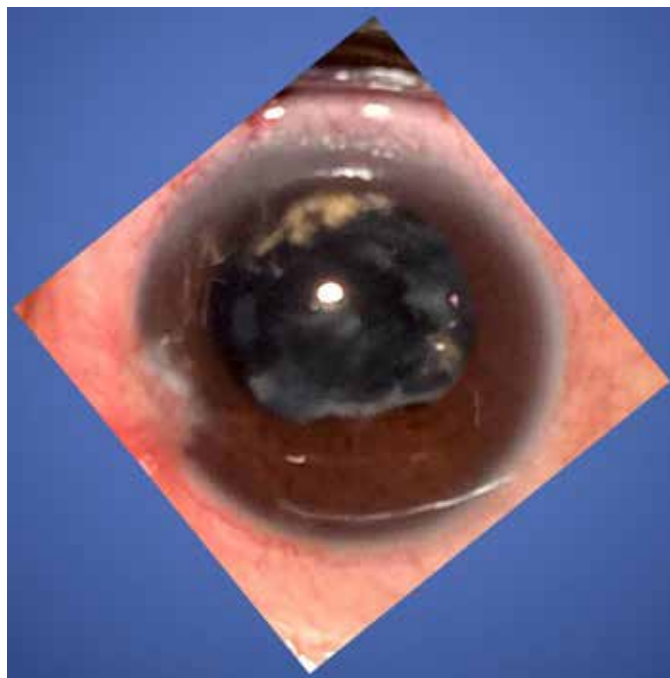
Report

Fifty-six years old female patient came to the Eye Department with chief complaints of gradual, painless and progressive decreased vision in her left eye since last 10 yrs. There was no h/o redness or discharge from the eye, no h/o ocular injury or ocular surgery, no h/o any systemic diseases or any long term steroid intake. General and systemic examination was normal. On ocular examination: The distant vision in the right eye was 6/36 (measured by Snellen's chart) improving to 6/9 with -0.5 diopter cylinder at the axis of 125 degrees, and the left eye was counting fingers close to face with the projection of rays accurate in all quadrants and vision not improving further with pinhole. Autorefractometry of both eyes showed OD: -0.75 DC X 125; OS: ERROR. On examination of the anterior segment, the right eye was within normal limits, and left showed mature cataract.

The patient was now dilated with eyedrop Tropicamide 0.8% + Phenylephrine 5% combination to check whether the pupil dilates fully and for the examination of the posterior segment. The dilated anterior and posterior examination in the right eye was within normal limits. In the left eye, the pupil was 6 mm dilated, with posterior synechiae present from 4 to 8 o'clock position. Surprisingly, instead of a mature cataract, we found an opaque calcified anterior capsule in the centre and translucent capsule with calcified white spots in the periphery. Posterior details were not visible. So we were dealing with what? Was it a mature cataract? Or a case

of unnoticed trauma? Or anterior capsular opacification/calcification? Is there a lens behind this capsule?

So, to find the answers, we did a Neodymium-doped Yttrium Aluminum Garnet (Nd YAG) laser capsulotomy keeping anterior offset. It was initially started with a window no. Three and then shifted to 4 with 2.3 to 8.5 millijoules of energy variation. 10 - 15 shots were required to make an opening of approximately 5 mm in the dense anterior capsule (Figure 1). There revealed no natural or intraocular lens in the left eye, and the posterior segment appeared to be within normal limits. The vision in the left eye improved to 6/12 with pinhole and also with + 7.00 diopter spherical and +2.5 diopter cylinder at the axis of 100 degrees. We planned an Ultrasound (USG) B Scan of the left eye to check for the peripheral retina since the pupil was mid dilated. USG B



Figures 1: Anterior Segment Examination Of The Left Eye After Nd Yag Laser



Figures 2: Sinsky Hook / Dialer Used To Break The Post Synechia

scan also revealed absence of lens. Hence, the diagnosis, spontaneous absorption of the lens in the left eye.

Routine investigations, viral markers and specific testing for Rubella were all within normal limits. We calculated the IOL power of the left eye in Aphakia mode and planned the patient for anterior vitrectomy with secondary IOL implantation under peribulbar anaesthesia. The initial steps of surgery were the same. We used a Sinsky hook along with a dispersive viscoelastic to break the posterior synechia (Figure 2). We did the anterior vitrectomy (2500 cuts / min) in Cut-I/A (Irrigation/ Aspiration) mode and implanted a Rigid IOL in the sulcus through a six mm scleral tunnel. Intra-cameral Triamcinolone acetonide 1mg/0.1ml ensured no vitreous in the anterior chamber. Postoperatively, the patient's IOL was in place with vision improving to 6/6 with -2.00 diopter cylinder at 90 degrees. The patient was given an antibiotic and steroid eyedrops with tapering doses of topical steroids for a month.

Discussion

Spontaneous absorption of cataracts is rare, with one case reported in a year as per Marlow's literature. List of diseases like Leptospirosis, Rubella, persistent pupillary remnants, phacolytic glaucoma, trauma, iridectomy can lead to spontaneous lens absorption through various mechanisms. Mohan et al. in his study described idiopathic causes like - Osmotic forces and chemical changes on either side of the lens capsule and unrecognisable tears in anterior or posterior capsule with dislocated lens getting absorbed over a long period without noticeable inflammation.³ Zeiter et al. explain that calcium deposition takes place in the lens when it gets invaded by the uveal tissue due to a rupture in the lens capsule.⁴ Goel N et al. also reported cases with anterior and posterior capsular rupture in a hyper mature cataract, 50% of which is associated with calcification in the capsular remnants.⁵ In our case report, the evidence of calcification clearly shows that there was an unrecognised capsular rupture. The posterior synechia also reveal that some ocular inflammation did occur which went unnoticed.

Conclusion

Spontaneous absorption of the lens is rare and has surprising presentations. Unrecognised capsular tears with unnoticed ocular inflammation can lead to spontaneous lens absorption as in our case evident from the capsular calcification.

Ethical approval

The surgical procedure involving human participant is following the ethical standards of the institutional/ national research committee, the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Consent

Written, informed consent is obtained from the patient for laser as well as surgical procedure.

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Cite This Article as: Spontaneous absorption of the lens: A case report, Prajakta Dandekar. Delhi Journal Ophthalmology 2020; 31;(3) 77-78.

Acknowledgments: Nil

Conflict of interest: None declared

Source of Funding: None

Date of Submission: 30 June 2020

Date of Acceptance: 22 July 2020

Address for correspondence

Prajakta Dandekar, DNB
(Ophthalmology)
Graded Specialist, Military Hospital
Gwalior, Madhya Pradesh, India.
Email : prajakta0409@gmail.com



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