Spontaneous Absorption of Lens

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ABSTRACT

Introduction: Spontaneous absorption of natural lens is rare, although it has been infrequently reported in literature, as far back as two centuries.

Case report: Thirty five year old lady presented with sudden diminution of vision in left eye. Anterior segment OCT revealed absent lens matter with intact capsular bag. Surgery with IOL implantation was done through 2.8 mm incision. Phacoemulsification was not required. So the diagnosis both preoperative and intraoperative was complete absorption of lens.

Conclusion: Absorption of lens is a rare entity, and complete spontaneous absorption of lens with no change in capsular bag is rarest of all. We could arrive at diagnosis confidently with OCT.

Keywords: Spontaneous, absorption, lens, Optical Coherence Tomography (OCT)

INTRODUCTION

Natural crystalline lens is the part of eye which is important for focusing of light rays. It may become opaque, when it is known as cataract. Sometimes the cataractous and very rarely the crystalline lens become absorbed. Absorption can be spontaneous; or it may be associated with conditions like, maternal rubella, leptospirosis, uveitis, PHPV, Hallerman-Streif- Francois syndrome, Down syndrome, morgagnian cataract etc.

Ever since J.C.Saunders (1811)[1] mentioned his possibility of spontaneous absorption of congenital cataract, various authors have presented their own cases or case series. The debate still continues about mechanism of absorption in cases were no cause is found, as in this case. However, completely absorbed lens matter with well preserved capsular bag makes this case unique, as discussed below.

CASE REPORT

A thirty five year old female presented to M.D. Eye Hospital, Allahabad with complain of poor vision left eye for two years. She also had diminution of vision in right eye for last five years for which she underwent cataract surgery elsewhere in right eye two years back. Been informed by the previous surgeon that she is suffering from cataract in left eye as well, she presented to us for cataract surgery in her left eye. No history of trauma, long term medication was present. Birth history and obstetric history were normal.

On examination, eyes were orthophoric with full extraocular motility. Uncorrected vision was 6/12P in right eye and FC in left eye. Best Corrected Visual Acuity was 6/6 in right eye (-1.0DC@170 degree) and 6/6P in left eye (+11D/-0.75 DC@180 degree) respectively. This was quite surprising to us. Intraocular pressures were 14.1 and 17.3 mm Hg in right and left eye respectively.

Slit lamp examination of right eye revealed pseudophakia with SICS surgery. In left eye lens was not visible, only two membranes in apposition were seen. No signs of trauma, surgery or uveitis were seen. Fundus examination was unremarkable both eye.

Clinical diagnosis which seemed probable was spontaneous absorption of lens. Full blood count, blood sugar, ESR, serum electrolyte and creatinine were normal. TORCH titre was significantly positive. Anterior segment OCT (Fig.1) revealed anterior and posterior capsules of lens were well in apposition with no signs of lens in between. Rest of the anterior segment OCT was normal.

IOL power calculation was done in aphakic mode. Surgery was planned. Initial steps were the same. Rhexis (Fig.2) was completed. There was no need for hydrodissection. We performed irrigation aspiration which revealed few cortical fibers superiorly (Fig.3). Implantation of foldable IOL was done with a well centered lens at the end of surgery (Fig.4). She was followed up on day 1, 7, 15 and 30. Uncorrected vision at 1 month was 6/9. Refraction at 1 month revealed +0.5DS/-1.0DC@180 degrees with 6/6 vision. Thereafter we followed her at month two. But then we lost to follow up.

DISCUSSION

J.C. Saunders in 1811 first mentioned the possibility of spontaneous absorption of congenital cataract.[1] But it hardly gained any recognition till the first case report was made by Warnatz (1835).[1] Ruess (1900)[1] presented review of literature. Pyle (1902)[1] reviewed the literature and proposed a classification. Though a century old, we would like to mention it here.

1. Cases in which there was absorption after spontaneous rupture of anterior or posterior capsules.
2. Cases in which there was spontaneous dislocation of cataractous lens.
3. Cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after degenerative changes of morgagnian cataract without rupture of capsule or dislocation of lens.
4. Cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of rupture of capsule, dislocation or degenerative changes of the morgagnian type.
5. Cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in

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How to cite this article: Kshama Dwivedi, Mimansa Agasti. Spontaneous absorption of lens. International Journal of Contemporary Medical Research 2016;3(5):1441-1442.

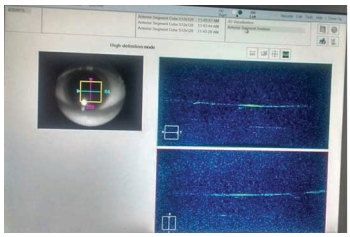
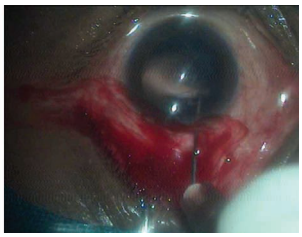

Figure-1: Anterior segment OCT showing anterior and posterior lens capsules adjacent to each other. Nucleus absent; **Figure-2:** Capsulorrhexis

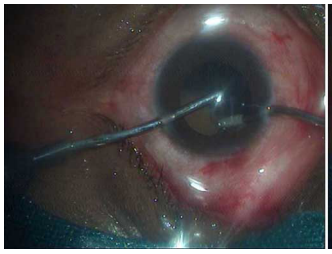
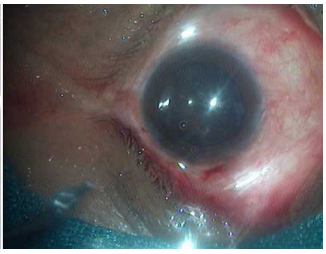

Figure-3: Aspiration of cortical fibers at 12 O'clock; **Figure-4:** Well centered IOL

refraction.

Individual case reports of spontaneous lens/ cataract absorption were made by several authors in various scenarios e.g. Trousseau (1901) in acute glaucoma, Vancea (1932) in persistent pupillary membrane and Geiser in PHPV.[1] Congenital rubella cases showing same were reported by Ehrlich, Black, Delthil and Delthil, Weiss and Boger et al.[1] Blaise et al reported it in phacolytic glaucoma,[2] whereas Rathinam et al widely studied it in leptospiral uveitis.[3]

Certain syndromes have also been associated with spontaneous absorption of lens, Down syndrome[4] and Hallermann – Strief – Francois syndrome.[5,6]

Mechanism of spontaneous absorption of lens is believed to be different in different cases. Vancea[1] considered the absorption secondary to various complications, injury to lens capsule being one of them. Duke Elder proposed that an unrecognizable tear of capsule is probable in many cases.[1] Osmotic changes due to chemical changes on either side of lens capsule are undoubtedly of great importance. No mechanisms have been proposed for post-uveitis cases[7,8] or those associated with syndromes.[4-6]

Hence the literature has plethora of cases being termed spontaneous. But Webster's dictionary defines it as," Proceeding from or acting by internal impulse, energy, or natural law, without external forces; self acting."[8] As is seen in our case, with no preceding history of trauma, ocular or systemic disease, or long term medication.

History of diminution of vision is of five years only (patient being thirty five years old). Nystagmus was absent. Postoperative vision with refractive correction was 6/6. This indicates that the problem was not of congenital origin. Anterior and posterior capsules were intact, and no breaks were seen either in OCT or during surgery. Nucleus was totally absent and fine traces of cortical matter were present. To the best of our knowledge, this is the first case of its type. Hence worth reporting.

CONCLUSION

The world is full of God given surprises. Anything which does not looks like a routine case should be thoroughly investigated. Like OCT in this case was very helpful in making the diagnosis and the intraoperative findings matched it. A patient who develops sudden diminution of vision with aphakia could be due to dislocation of lens, or very rarely due to spontaneous absorption of lens.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 27-03-2016; **Published online**: 26-04-2016