

Brief Communication

Rhesis fixation of intraocular lens in a case of buphthalmos with cataract

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Abstract

We describe a case of buphthalmos and coexisting cataract undergoing clear corneal phacoemulsification where a routinely available, normal sized lens was implanted using the novel technique of 'Rhesis fixation of IOL'.

Keywords: Buphthalmos; Cataract; Rhesis fixation

Background

Congenital glaucoma is a rare but well known entity (Clements DB, 1971). Buphthalmos refers to the marked enlargement that can occur as a result of any type of glaucoma present since infancy (Mandal & Chakrabarti, 2011). Rarely buphthalmos can be associated with cataract which requires cataract surgery for visual rehabilitation of these patients (Gundzik JD, 1962). Cataract surgery in children poses a therapeutic challenge due to difficulty in making the anterior capsulorhexis due to the elastic anterior capsule, excessive inflammation post surgery and early posterior capsular opacification justifying the need of a posterior capsulorhexis and anterior vitrectomy (Bigbov MM & Zaïdullin IS, 2013). In buphthalmos, where the eyeball is large, there is additional risk of decentration of the capsular bag as well as the intraocular lens (IOL) due to excessive stretch on the zonules as a result of rapid expansion of the

infant eye under high pressure. Moreover, there is an increased risk of rotational instability of the IOL due to the disparity in the size of the IOL implants designed for a normal eye and the capsular bag (Bigbov MM & Zaïdullin IS, 2013)

In this respect, we describe a case of buphthalmos and coexisting cataract undergoing clear corneal phacoemulsification where a routinely available, normal sized lens was implanted using the novel technique of 'Rhesis fixation of IOL'.

Case

A 20-year-old male patient presented with decreased vision in right eye since childhood. He was diagnosed and treated for infantile glaucoma in both eyes. Left eye was phthisical probably following some surgery related complication in the past. He had a visual acuity of hand movements close to face in the right eye. On slit lamp examination, right eye had an enlarged cornea with horizontal and vertical corneal diameters being 16 and 15.5 mm respectively. Anterior chamber was uniformly deep with non-dilating pupil and a visually significant zonular cataract. The applanation intraocular pressure (IOP) was 17

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on latanoprost 0.005% eye drops. On posterior segment evaluation cupping of 0.9 was seen.

In view of the visually significant cataract, surgery was planned. Pre-operative work up included biometry using the SRK-T formula on the IOL master (Version 5.0; Carl Zeiss Meditec Ltd, Jena, Germany). Cataract surgery was done under peribulbar anaesthesia. Since pupil was non-dilating, four iris hooks were applied intra-operatively and anterior capsulorhexis of approximately 4 mm was made with utrata forceps. After hydrodissection and hydrodelineation, phacoaspiration of the cataractous lens was done on the Alcon Infiniti VisionSystem (Alcon, laboratories, Inc. Fort Worth, Texas) with the Ozil Intelligent Phaco platform and a 3-piece hydrophobic acrylic IOL (Alcon AcrySof MA60AC with optic diameter of 6 mm and overall diameter of 13 mm) was inserted with both haptics in the sulcus and the optic captured in the bag through the anterior capsulorhexis i.e rhexis fixation of IOL was done (Figure 1).

Postoperatively, he had a visual acuity of counting fingers close to face due to the advanced optic atrophy. Goldmann applanation IOP was 12mmHg. However, the IOL was perfectly centered.

Literature pertaining to cataract surgery in buphthalmos is scanty. Rhexis fixation of IOL has been described in patients with anterior megalophthalmos but has never been used in buphthalmic eyes with cataract (Jain AK et al, 2014). Also, to the best of our knowledge, no report in literature mentions phacoaspiration with a 3-piece hydrophobic acrylic IOL using the novel technique of rhexis fixation as was done in our case.



Figure 1: Rhexis fixation of intraocular lens with both haptics in the sulcus and the optic captured in the bag through the anterior capsulorhexis.

Conclusion

Hence, phacoemulsification and implantation of a normally sized posterior chamber IOL with the optic captured in the bag through the anterior continuous curvilinear capsulorhexis and haptics placed in the sulcus i.e rhexis fixation, is a useful option in patients with co-existing buphthalmos and cataract. This technique provides stability and long-term centration of the IOL.

Patient Consent-The patient has consented to the submission of the case report for submission to the journal.

Conflict of Interest: All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge).

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