CASE REPORT

A CASE OF DESCEMET MEMBRANE DETACHMENT POST-CATARACT SURGERY

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Descemet Membrane Detachment is a vision-threatening complication of Cataract Surgery. If not treated promptly it can lead to serious vision impairment with the possible need for corneal transplantation. We present a case report of a 60 years old female who presented with blurry vision post phacoemulsification and lens placement after a cataract in the left eye. She was diagnosed with Descemet membrane detachment on slit-lamp examination that was confirmed on Anterior-segment Optical Coherence Tomography and treated with intracameral 20% SF6 injection. There was a marked improvement in her vision with complete resolution of corneal oedema. Conclusion: Anterior Segment OCT can be used as a diagnostic tool to accurately ascertain the site and extent of detachment and monitor disease progress. 20% Sulfur-hexafluoride intracameral injection can be used as a surgical option for large, central detachments.

Keywords: Descemet Membrane, Cataract, Tomography Optical Coherence, Corneal Opacity

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INTRODUCTION

Phacoemulsification with intraocular lens (IOL) placement is the standard treatment for Cataract. Descemet Membrane Detachment (DMD) is a known complication of cataract surgery[1] with an incidence of up to 43% of cataract surgery patients[2]. The Descemet membrane is responsible for maintaining the clarity of the cornea, and therefore the most common presenting complaint is blurry vision due to a foggy cornea.

Since the effects of Descemet membrane disturbance can have a serious impact on the vision, including bullous keratopathy, microbial keratitis, and corneal scarring, with a possible need for corneal transplantation[1,3], it is imperative that we effectively diagnose and promptly manage such a vision-threatening complication.

Despite the high incidence, only a handful of cases have been documented in Pakistan. We present a case where a patient developed DMD post phacoemulsification with IOL placement, that was diagnosed with Anterior Segment- Optical Coherence Tomography (AS-OCT) and was managed successfully with Sulfur-hexafluoride (SF6) intracameral injection.

CASE REPORT

A 60 years old female with no known comorbid presented with complaints of blurry vision and the inability to perform daily activities one week after cataract surgery in the left eye. On slit-lamp examination, she was noted to have central corneal oedema disturbing the visual axis. Her BCVA was 20/200. She was given hypertonic solution, steroid drops but there was no improvement at the 2-week follow-up, and vision further deteriorated to Hand-movements (HM) in the left eye.

AS-OCT was performed which showed central detachment of the DM with peripheral attachment to the cornea and increased corneal thickness (Figure-1).

She was informed of the diagnosis of DMD, told about the possible treatment options and consent was taken for Desmetopexy with 20% Non-Expansile SF6 Injection. No complications were encountered during the procedure. Post-operative medication like antibiotic drops, local anaesthetic were given and eye care was explained to the patient.

She was followed on postoperative day 2. Her complaints of blurry vision were resolved. Corneal edema showed marked resolution and vision improved to 6/9 from HM. Post-operative AS-OCT showed complete apposition of Descemet Membrane to the posterior corneal stroma as seen in Figure-2.

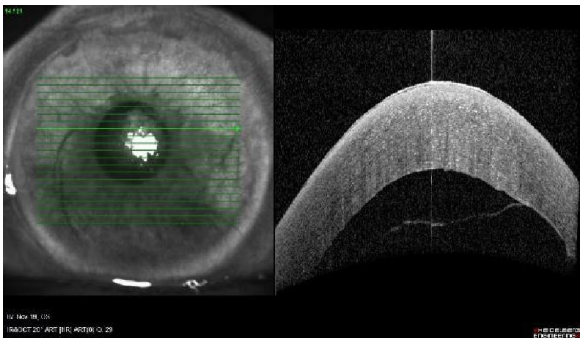

Figure-1: Preoperative image showing central detachment of the Descemet Membrane as seen on Anterior Segment-OCT

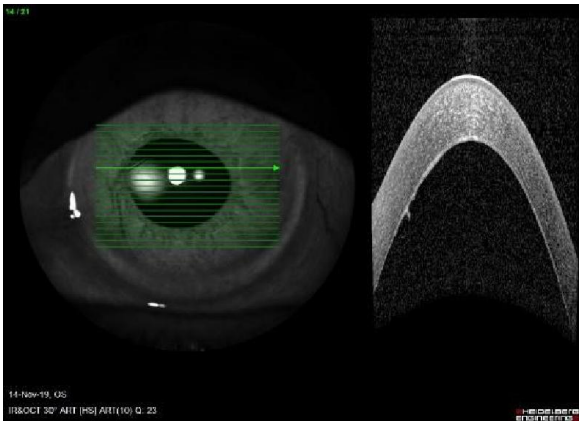

Figure-2: Post-operative image after intracameral injection of SF6 showing Descemet Membrane opposed to the overlying stroma, seen on Anterior Segment-OST

DISCUSSION

Despite the potential to be vision-threatening there are very few reports that have come out of Pakistan about Descemet membrane detachment, fewer still have given a layout of the possible diagnostic and management approaches. Cataract surgery is the most commonly reported cause of DMD of all the invasive anterior chamber procedures[4], with Phacoemulsification responsible for 0.5% of the total cases[5].

In our patient no risk factors could be identified before the surgery however, use of blunt instruments for entry, oblique entry and the accidental injection of air, saline, or viscoelastic between the stroma and Descemet's membrane, pressing of DM with aspiration cannula, and hooking of IOL haptics are all intraoperative risk factors for developing the condition[4], which might have been the case in our patient as well.

Moutsouris *et al*[6] reported that AS-OCT had a 36% better diagnostic yield as compared to conventional slit-lamp microscopy, gonioscopy, and even the newer Schiemflug imaging for hazy corneas[3]. Our study further ascertained the value of AS-OCT as it led to the prompt diagnosis and management of the defect.

Management of DMD is often based on proposed classifications; Mackool and Holtz[7] proposed management based on the extent of separation, less than 1 mm being planar and with a better prognosis than non-planer which was more than 1 mm. Mulhern *et al*[8] further divided it into peripheral and combined peripheral and central detachments[1]. It is believed that smaller, peripheral detachments can be managed conservatively whereas central detachments or obscuration of the visual axis demands a prompt surgical approach to be taken.[1,3]

The patient had centrally placed detachment with deterioration in her vision so a surgical approach with SF6 intracameral injection was deemed necessary. C3F8 and air tamponade[4] in addition to SF6 have been employed as surgical options, with a venting incision proposed for refractory cases[4].

The literature reviewed highlighted the need for a set of guidelines for prompt diagnosis and management of DMD owing to its vision-threatening potential. We recommend AS-OCT as a diagnostic modality for edematous corneas and surgical treatment for large, central DMDs. A clinical study with larger sample size is required to test the possible outcomes of the diagnostic and management options mentioned in this report.

MK: Literature search, write-up, the conceptualization of study design. HAM: Literature search, write-up. AA, MA: Proofreading data collection. HK: Proofreading, the conceptualization of study design

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