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Case Report

Repeat desmetopexy for large Descemet's membrane detachment after phacoemulsification

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ABSTRACT

Descemet membrane detachment (DMD) is a potentially vision-threatening complication of cataract surgery. The incidence of DMD has been reported from 0% to 5% during phacoemulsification surgery1of it 0.5% are large and involve the central cornea. Descemetopexy is now accepted as the standard of care for the management of post–cataract surgery Descemet membrane detachment. The success rates with intracameral injections have been reported to be 90-95%. We report a case of a patient who underwent repeat descemetopexy with perflouropropane after failed initial descemetopexy with air for post cataract surgery Descemet membrane detachment. The patient had good visual acuity and clear cornea with Descemet's membrane well attached at the end of 2 months follow-up.

Keywords: Anterior OCT, Descemet membrane detachment, Descemetopexy

INTRODUCTION

Descemet membrane detachment(DMD) is a potentially vision-threatening complication of cataract surgery. The incidence of DMD has been reported from 0% to 5% during phacoemulsification surgery of it 0.5% are large and involve the central cornea.[1,2] Large DM detachment, due to greater surface area, leads to corneal edema, loss of physiological function and decreased visual acuity. Hence it becomes necessary by the operating surgeon to intervene at the right time.

Though reports of spontaneous resolution of Descemet membrane detachment exist in literature, it has been shown that medical treatment alone might not be sufficient in all cases and the mean time to resolution is also prolonged.[3-6] Descemetopexy, anterior chamber injection of gas to reposition the detached Descemet membrane, is now accepted as the standard of care for the management of post-cataract surgery Descemet membrane detachment.[7,8]

We report a case of a patient who underwent repeat descemetopexy with perflouropropane after failed initial descemetopexy with air for post cataract surgery Descemet membrane detachment.

CASE REPORT

A 78-year-old male, hypertensive, well controlled, underwent phacoemulsification with foldable intraocular lens in his left eye in March 2017. On day 1, the patient had vision of counting fingers close to the face (CF) and slit lamp examination revealed diffuse corneal edema (Figure 1), large Descemet's membrane detachment (DMD) was noted involving visual axis which was confirmed on anterior segment optical coherence tomography (AS-OCT) (Figure 2) and normal intraocular pressure. The patient underwent 100% air injection with a 26-gauge needle in the operating theatre under all aseptic precautions and topical anesthesia. The patient was advised to lie down in a supine position for the next 1 hour. The intraocular pressure on discharge was normal.

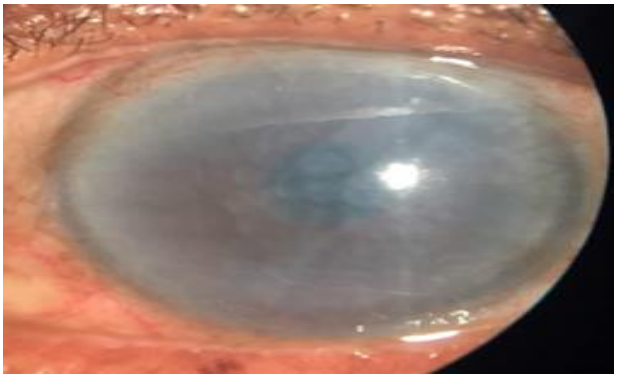

Figure 1: Corneal edema due to large DMD 1 day postop.

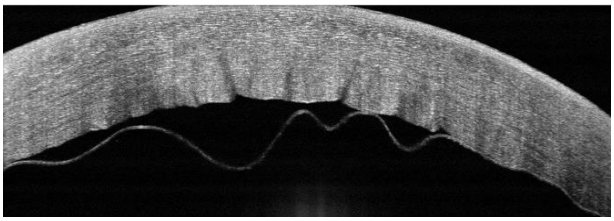

Figure 2: Increased corneal thickness with corneal edema due to large DMD.

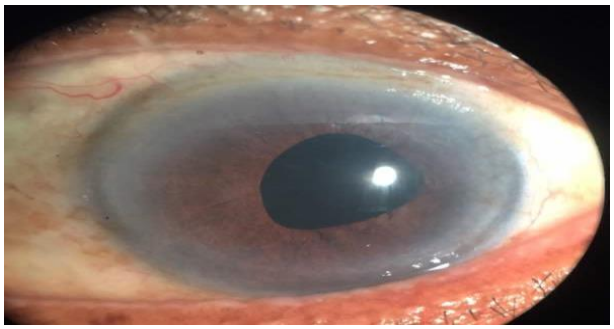

Figure 3: Clear cornea with attached Descemet's membrane 2 months postop.

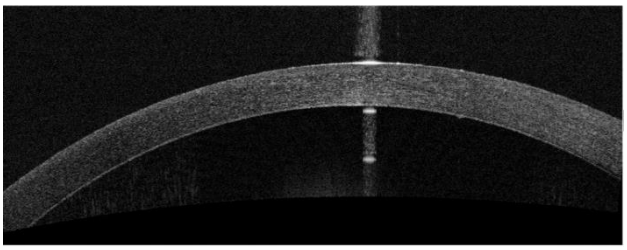

Figure 4: Resolved corneal edema with well attached Descemet's membrane 2 months postop.

Next day his visual acuity was CF and slit lamp examination persistent DMD. Repeat descemetopexy with perfluoropropane (c3f8) was done in the operating theater under all aseptic precautions and topical anesthesia. He was continued on topical 0.5% moxifloxacin eye drops and 1% prednisolone acetate eyedrops 2nd hourly. At 1-week review, his visual acuity improved to 6/12 and slit lamp examination revealed clear cornea with well apposed Descemet's membrane to corneal stroma (Figure 3). At 2 months follow up the cornea was clear with Descemet's membrane was well attached with good visual acuity (Figure 4).

DISCUSSION

During phacoemulsification, Descemet's membrane tear can progress into a large detachment by continued traction on the torn edge by any intraocular instrumentation or manipulation or during introduction of the phaco tip or IOL.[1] Engaging Descemet's membrane with the irrigation/aspiration device (when mistaken as an anterior capsular remnant), inadvertent injection of viscoelastic material by inserting the cannula between Descemet's membrane and the corneal stroma may be the most common cause of DMD with the current surgical techniques.[2]

A large Descemet's membrane detachment can result in stromal and epithelial edema, cloudy cornea and compromised vision postoperatively. Early surgical correction is imperative for optimal postoperative visual recovery and to avoid any potential scarring secondary to prolonged corneal edema and possible inflammation. Prolonged Descemet's membrane detachment and corneal edema may occasionally require corneal transplantation, which can be avoided by timely surgical intervention.[1]

Descemetopexy gives good anatomic attachment rates and visual outcomes and has become the standard treatment for DMD. The success rates with intracameral injections have been reported to be 90-95%.[9] However, in cases with failed initial descemetopexy, the next step in the management of such cases remains unclear. Before initiating a complex surgical procedure like keratoplasty, which requires good postoperative care and regular follow-ups, repeat descemetopexy with a long-term tamponade using 14% C3F8 gas for recurrent DMD is a worthwhile attempt.[10]

In our patient, the injection of 100% air given on the fourth postoperative day but the DMD failed to attach so a long-term tamponade was considered necessary. Hence longer-acting (2-3 weeks) 14% C3F8 gas was injected. The patient had good visual acuity and clear cornea with Descemet's membrane well attached at the end of 2 months follow up.

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