Treatment of Descemet’s membrane detachment after cataract surgery with 20% SF₆

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Symptomatic detachment of Descemet’s membrane is a rare complication of ocular surgery, especially in cases where there is excessive manipulation of the incisions, with application of mechanical forces on the cornea that separate Descemet’s membrane from the stroma. If not treated early, detachment can trigger major complications such as chronic corneal edema which can have fatal consequences for vision.

Various methods have been used in its treatment: watchful waiting, repair with viscoelastic, transcorneal flap suture, air injection, 20% SF₆, or 14% C₃F₈ in the anterior chamber. Some cases with poor response to treatment may even require repair by keratoplasty.

**KEYWORDS:** Cataract, Descemet’s membrane detachment, cornea, ocular surgery complication, 20% SF₆.

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The patient was positioned at a 45° angle, enabling the bubble gas to float through anterior chamber and lie against the Descemet’s membrane, thereby pushing it to the stroma. The postoperative period was mostly uneventful except for a slight increase in intraocular pressure that was controlled with topical beta-blockers. The gas bubble in the anterior chamber remained there for two weeks. We followed the patient for a year and a half. The best corrected visual acuity was 20/25 and the cornea remained transparent with no recurrence of detachment observed.
COMMENTS

Symptomatic Detachment of Descemet’s membrane (DMD) is a rare complication of ocular surgery that most often occurs after cataract intervention. Its presentation has been related to trauma around the incisions during surgery, shallow anterior chambers and even some patient predispositions such as glaucoma, hypotony, previous intraocular surgery, corneal scarring or anatomical factors. However, the latter have never been proven^2-4. Our patient did not have any of these risk factors. It is important to make an early diagnosis of this condition because it can cause severe and irreversible damage to the cornea and threaten vision.

This therapeutic approach is controversial because many DMD resolve spontaneously and the natural history is still unclear. It seems logical that therapy depends on the severity and extent of the detached area. For those that are flat and localized, observation and medical treatment with steroids and hyperosmotic eye drops is enough. In cases of a larger abruption, with scrolled borders and affected vision, more aggressive therapy is deemed necessary. Different methods have been tried, mostly in disuse: digital transcorneal flap suture; exchange with viscoelastic into the anterior chamber, which presents the problem of increased ocular pressure; and exchange with air to 100%, which only remains for 3-4 days within the anterior chamber. This is not enough to achieve good reattachment of the membrane in many cases^5,6.

Recently the use of expanding gases, such as 14% C3F8 and 20% SF6, seems to be the most recommended treatment options. Without risking toxicity to the endothelium the gases can remain in the anterior chamber for an extended time (2-3 weeks). This is long enough to reattach Descemet’s membrane. In our case, we followed the technique described by Terry King that proved to be easy, safe and effective. If all else fails, some cases may require keratoplasty.

REFERENCES


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