Sir,
Unusual acute angle closure after air descemetopexy

Although descemet's membrane detachment (DMD) is uncommon, it may result in serious visual morbidity.^{1,2} Manual repositioning, intracameral viscoelastic, air or long-acting gas injection, and full-thickness corneal sutures are the surgical remedies available.¹ Comparative studies in the efficacy of these treatment modalities, however, are largely lacking.¹ In literatures, there are very few papers describing the use of intracameral air injection, which is inexpensive and readily accessible.¹ We adopted this method for descemetopexy but an unexpected postoperative complication occurred.

Case report

An 88-year-old Chinese female had visually significant lens opacities in her right eye. Extracapsular cataract extraction and posterior chamber intraocular lens implantation was performed. Shortly after smooth nuclear expression, patient became restless with iris prolapse. In view of increasing vitreous pressure, peripheral iridectomy was abandoned. A DMD extending from 11 o' to 1 o'clock with the base of the inverted flap measuring 3 mm from the limbus was noted. Air bubble (0.2 ml) was injected through the corneal wound after completion of suturing. A single air bubble occupying two-third of the volume of the anterior chamber and spanning across the pupil was formed at the end of surgery.

On first postoperative day, air bubble was found trapped in posterior chamber, leading to flat anterior chamber and superior iridocorneal touch (Figure 1). Intraocular pressure elevated to 38 mmHg. Mydriatic eyedrops (Mydrin-P®) was instilled and patient was postured in supine position. One day later, anterior chamber depth and intraocular pressure became normal. Air bubble was completely reabsorbed at 1 week and DMD disappeared. Best-corrected visual acuity improved to 20/40.

Comment

It is believed that small DMD is common but under-reported in cataract extraction.¹ Among the treatment options, intracameral long-acting gas injection (sulfur hexafluoride SF₆ or perfluoropropane C₃F₈) is favored for its simplicity and safety.³⁻⁶ Good reattachment rates of 80% was reported.¹

In comparison, use of air for descemetopexy was rarely described.¹ To our knowledge, occurrence of acute angle closure secondary to intracameral air injection has never

Figure 1 Slit lamp photo showed a posterior chamber air bubble (white arrows) between the superior iris and the intraocular lens, causing flat anterior chamber, superior iridocorneal touch and raised intraocular pressure.

been reported in the English literature. In this patient, collapsed anterior chamber and iridocorneal touch developed due to the awkward position of air bubble. Migration of air into posterior chamber was facilitated by early postoperative floppy, atrophied iris together with small bubble volume just sufficiently occupying juxtapupillary space. Acute appositional angle closure was aborted by prompt pupillary dilatation. Concomitant supine positioning facilitated release of trapped air bubble.

In summary, we report an unusual complication of air descemetopexy. Given a larger and more sustained surface tension, a fully filled anterior chamber during the early postoperation may prevent this untoward retropupillary migration of the air bubble while effectively reattaching the DMD. Early detection and appropriate management of this condition results in good outcomes.

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Sir,
Irrigation-free vitreoretinal surgery for recurrent retinal detachment in silicone oil-filled eyes

After treatment of complicated retinal detachment using silicone oil,^{1–3} recurrent detachment may still occur secondary to open retinal breaks with or without reproliferation.^{4–7} Conventional treatment involves removal of preexisting silicone oil followed by vitreoretinal manipulations and reinjection of oil. Recently, simplified procedures have been advocated for limited proliferation.^{8,9} We conducted a retrospective study on 13 cases in which vitreous surgery was performed under preexisting silicone oil without infusion of physiological solution. The surgical indications, techniques, and anatomical outcomes were evaluated.

All patients were treated by a single surgeon (CM Yang) from July 2002 to October 2004 at National Taiwan University Hospital. Cases were selected based on the preoperative assessment, which predicted that reattachment may be obtained without resorting to the use of vitreous cutter. All cases presented with inferior rhegmatogenous retinal detachment with or without macular involvement and localized posterior or anterior vitreoretinal proliferation.

For eyes with absent or inadequate inferior scleral buckle, a high buckle was obtained either by inferior

reinforcement of a segmental silicone sponge, or by inferior shortening of the polytetrafluoroethylene (PTFE) band, if it had been used in the previous surgery.^{10,11} Three sclerotomies were created; the infusion line was connected to air pump in stead of balanced salt solution (BSS) bottle. Retinal traction was released by epiretinal membrane peeling or inferior circumferential relaxing retinotomy using pics, forceps, or scissors. Prominent subretinal bands were also removed through iatrogenic retinotomy. Air-subretinal fluid exchange through preexisting or iatrogenic breaks was performed. Endophotocoagulation around the break margins or in areas of suspected breaks was then executed after the retina became flattened. Silicone oil (Acri. Sil-oil 5000, Acri.Tec GmbH, Glienicke bei, Berlin) infusion to replace the air bubble was undertaken before closing the sclerotomy wounds. Scleral buckle reinforcement was not performed in three cases: one because of preexisting high buckle; the other two because of severe inferior tenon adhesion.

The patients' characteristics were presented in Table 1. All cases in this series had complete retinal reattachment in the previous operation; most developed recurrent detachment involving the periphery in 2–4 weeks after the previous operation; and all experienced slow progression of the detachment. Open breaks were identified in only half of the cases. All cases obtained successful retinal reattachment at the end of the operation. None of the operated cases had persistent postoperative perisilicone haemorrhage, high intraocular pressure, rubeosis iridis, or increased turbidity or accelerated emulsification of mixed oil. Except one case which developed recurrent detachment requiring further surgery, the remaining 12 cases had persistent attached retina throughout the follow-up periods. An example was shown in Figure 1.

Comment

The combined external and internal approaches utilized in this study have several advantages. First, the part of the retina which was attached preoperatively stayed attached throughout the process, thus increasing the likelihood of at least maintaining the preoperative visual acuity in the treated eye. Second, without removing the oil, the operation time is considerably reduced. Third, as oil may hold the retina in place, membrane removal is actually enhanced. Fourth, approaches from both outside and inside the eye ensure more complete release of retinal traction, thus theoretically reducing the chance of rubeosis or recurrent retinal detachment if silicone oil removal is considered. Admittedly, inferior high buckle placement alone may be adequate in treating simple inferior peripheral break without significant