

Foreign Body Removal for a Patient Requiring Multiple Procedures

This case required the involvement of retinal, glaucoma, and corneal surgeons.

BY SZILÁRD KISS, MD

Author's Note: The case that I discuss in this article was the subject of my submission for the 11th Annual American Society of Retina Specialists Film Festival held during the 2009 Retina Congress in New York. The video was awarded the Rhett Buckler Award, an impressive 8-lb, 24-carat gold-plated statuette given for the film voted best in the Festival, and it can now be viewed on www.eyetube.net.

A man aged 64 years presented in 2009 with severe inflammation in his eye after returning from a trip to the Ukraine. The last time we had seen the patient, he was diagnosed with proliferative diabetic retinopathy (PDR), glaucoma, and cataract, and we recommended that he have cataract and glaucoma filtering surgery. The patient was then lost to follow-up for several months.

When we saw him again at this visit, he reported that while in the Ukraine, he had undergone cataract and glau-

coma filtering surgery, and that in the latter cadaver bone fragments were used to reduce intraocular pressure. An Internet search reveals a Russian Web site that describes the use of bone fragments for filtering surgery, but we found no such reports in the English ophthalmic literature.

The patient had decreased vision, corneal edema, and anterior chamber inflammation. A slit-lamp image of the patient's anterior segment showed the amount of inflammation and the two pieces of bone and what appeared to be a retained lens fragment in the vitreous cavity (Figure 1). Because the view to the posterior segment was hazy, we utilized B-scan ultrasonography to localize and confirm the presence of the retained lens fragment.

SURGICAL TECHNIQUE

A combined retina and glaucoma surgery was planned. In the initial step of the procedure, we placed an Ahmed glau-

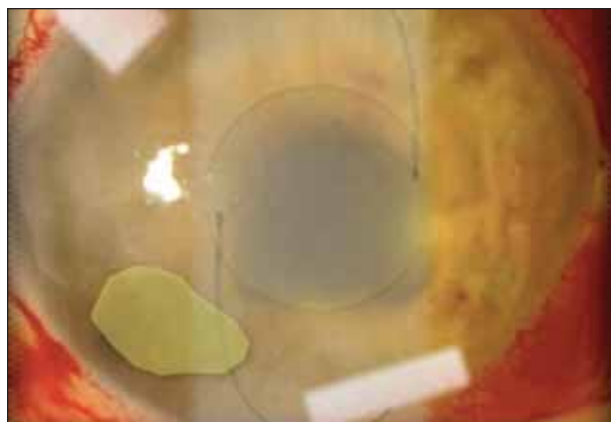


Figure 1. Slit-lamp image shows marked inflammation, bone fragments, and what appears to be a retained lens fragment in the posterior segment.

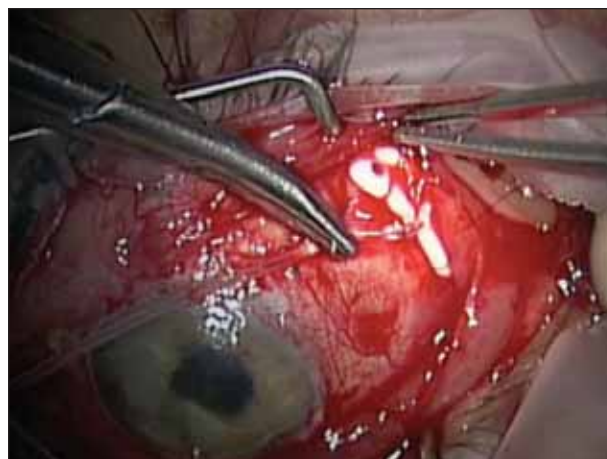


Figure 2. An Ahmed glaucoma filter is placed in the superotemporal quadrant.



Figure 3. A 23-gauge infusion cannula is inserted for globe stabilization prior to making any incisions.



Figure 4. The first bone fragment, located at the scleral flap in the superotemporal quadrant, is removed with 0.12-mm forceps.



Figure 5. The second bone fragment, located in the 6-o'clock position, is removed with disposable 23-gauge serrated forceps.



Figure 6. The retained lens fragment is too large to be removed with a 23-gauge vitrector.



Figure 7. A fragmatome is used to remove the retained lens fragment in the vitreous cavity.



Figure 8. The glaucoma tube is secured using a Tutoplast ophthalmic patch graft.



Figure 9. Slit-lamp image of eye at last follow-up.

coma filter (New World Medical, Rancho Cucamonga, CA) in the superotemporal quadrant (Figure 2). A 23-gauge infusion cannula (Alcon Laboratories, Inc., Fort Worth, TX) was then inserted for globe stabilization prior to making any cuts into the eye (Figure 3). This was followed by the removal of the foreign bodies located in the anterior chamber. The first bone fragment (Figure 4), located at the scleral flap in the supratemporal quadrant, was easily removed using 0.12-mm forceps. The second bone fragment, located in the 6-o'clock position, was removed (Figure 5) with disposable 23-gauge serrated forceps (Alcon Laboratories, Inc.). Attention was then directed to the posterior segment

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**Removal of Anterior
Chamber and Vitreous
Cavity Foreign Bodies
Following Cataract
Extraction and Glaucoma
Filtering Procedure**



By Szilárd Kiss, MD; and Nathan M. Radcliffe, MD

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of the eye. Two additional 23-gauge trocars (Alcon Laboratories, Inc.) were inserted transconjunctivally in the superonasal and superotemporal quadrants following generous displacement of the conjunctiva and Tenon's capsule. A 23-gauge pars plana vitrectomy was carried out. The retained lens fragment was easily identified. An attempt was made to remove the lens fragment with the 23-gauge vitrectomy handpiece as we have previously described with 25-gauge vitrectomy.¹ The fragment, however, was too large (Figure 6) for 23 gauge. Therefore, the superotemporal sclerotomy site was enlarged with a 20-gauge microvitrectomy blade, and a fragmatome was inserted for complete removal of the retained lens fragment (Figure 7). Additional panretinal photocoagulation was performed to address the active PDR. The case was completed by my glaucoma colleague, who inserted the glaucoma tube into the eye and secured the valve using a Tutoplast ophthalmic patch graft (IOP Ophthalmics, Inc., Costa Mesa, CA; Figure 8).

Because of the level of corneal decompensation resulting from the anterior chamber foreign bodies, the patient required a Descemet's stripping automated endothelial keratoplasty procedure approximately 8 months later for complete visual rehabilitation.

The slit-lamp image of the eye at our latest follow-up (Figure 9) shows a well-rehabilitated eye. The patient's visual acuity was 20/40 at this visit, and he was pleased with his outcome, as were the surgeons (retina, glaucoma, and cornea) who were involved in this case. ■

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1. Kiss S, Vavvas D. 25-gauge transconjunctival sutureless pars plana vitrectomy for the removal of retained lens fragments and intraocular foreign bodies. *Retina*. 2008;28(9):1346-1351.

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