CHRISTOPHER KHNG, MD

There is a long history of retained small metallic flecks following phaco surgery. These particles are not uncommon and are usually well tolerated by the eye.1-3 Rarely, they have been reported to cause intraocular inflammation.4 The fleck in this case was embedded on the anterior surface of the IOL in a position that would most likely not cause the patient any visual disturbance. Nonetheless, because of its relatively accessible location, I would attempt the particle's removal. The approach I propose has a good likelihood of success, with very little risk of compromising what would have otherwise been an uneventful surgical procedure.

First, I would fill the anterior chamber with a dispersive viscoelastic so that the particle, if successfully released, will be less inclined to migrate and become lost. Next, I would place a 27-gauge injection needle mounted on a 3-mL syringe through the main incision. I would then gently attempt to tease the fleck off the IOL's surface, while restraining the IOL with a straight Lester hook through the sideport held in my nondominant hand. The fleck should be released in the same manner as a corneal foreign body, with the bevel of the needle's finding an edge and lifting the particle off the surface.

After successfully freeing the fleck, I would retrieve it with Utrata capsular forceps through the main incision. Alternatively, one could use an I/A tip (preferably a soft silicone tip) with only the aspiration line connected (so as not to cause the fleck to vanish with the irrigation flow) and aspirate the particle if it were small enough. A comparison of the size of the fleck with the central most diffractive ring (0.75mm) suggests that the particle may be approximately 0.30mm in size. If it were larger, one could attract the fleck to the I/A port with aspiration flow and then hold it with vacuum. When withdrawing the tip of the I/A instrument from the eye, it might be helpful to lift the anterior lip of the incision to prevent the fleck's dislodgement.

If the fleck could not be freed from the IOL's surface, then it would be entirely reasonable to leave it, because it would be unlikely to cause a visual disturbance or toxicity to the eye. As a final option, one could exchange the IOL, provided that another multifocal lens of equivalent power were available. This procedure carries a small risk of capsular damage during explantation, which in a worst-case scenario might preclude the implantation of a multifocal lens.

CASE PRESENTATION

After phacoemulsifying a cataract uneventfully, the surgeon injected an Acrysof Restor IOL (Alcon Laboratories, Inc., Fort Worth, TX) into the capsular bag. Immediately after the lens had unfolded, a metallic fleck was visible on the anterior surface of the IOL, near the outer diffractive ring (Figure 1). Prior to placement, the IOL had been inspected and loaded into the Monarch “B” cartridge (Alcon Laboratories, Inc.) by the operating surgeon, who used a technique that allows no contact by any instrument on, near, or over the optic.

What, if anything, would you do in this case?

Figure 1. A metallic fleck was visible on the IOL's anterior surface.
LISA BROTHERS ARBISSER, MD

I have reported that one source of metallic fragments is the silver brazing where the inflow tubing meets the phaco handpiece. The material is inert and not magnetic. Metallic fragments in the eye have been described as arising from other sources. Usually, they adhere to the iris or the stromal tunnel of the incision, but they can also stick to the IOL, which has a tacky surface.

I would attempt to suction the fragment off the IOL first with a cannula attached to a syringe and then with the I/A handpiece. If I could not remove the fragment, because the chances of its being visually significant or causing a foreign body reaction or siderosis are very small. The patient should be informed of the fragment’s presence, however, and followed to ensure that no reaction occurs. For this reason, a surgeon might consider exchanging the lens while the patient is on the table to avoid any postoperative issues, real or imagined. There is a risk/benefit ratio to be considered regarding the manipulations involved in the IOLs exchange.

The handpiece used for this case should be inspected to ensure that it is not the source of particles. It can be sent to the manufacturer for testing. Representatives from Alcon Laboratories, Inc., told me that the company has changed its brazing process as a result of the aforementioned case I published.

J. E. “JAY” Mc Donald II, MD

Ideally, I would use the lens cutters to remove the implant and place another lens. If there were an issue with the IOL’s removal, I would leave the lens as is and hope that there would be no problem due to the metallic body. The optical consequences of the metal piece could range from nothing to something very material. I think, as time goes on and experiences like this occur, that we surgeons may find such particles are of little or no consequence.

Because I have not had or heard a report of a similar event, I would be as meticulous and conservative as possible in this case. With the introduction of any new lens technology and patients’ associated high expectations, surgeons must “stay within the lines” as much as possible so as to generate the most positive results. Any unaddressed problem that produces a negative outcome leaves the surgeon as well as the procedure exposed. Better to be safe now than sorry later.

DAVID F. CHANG, MD

If the particle had only been discovered postoperatively, I would have tried to determine if the patient were symptomatic, because acrylic IOLs can be more difficult to explant once the capsule completely fuses to the optic. This determination might be difficult, because the patient, when questioned, would report seeing some glare at night due to the lens’ diffractive rings.

In the intraoperative situation described, I would try to remove the metallic fragment with a capsulorhexis forceps, because it is within the central 3-mm zone of the optic. Based upon the description of the insertion technique, I would not expect the fragment to be deeply embedded. The tackiness of the optic’s material is such that a fragment could be stuck without actually leaving a deep pit.

In the unlikely event that the fragment could not be removed or if it resulted in a deep pit, I would perform an IOL exchange on the spot rather than risk postoperative symptoms in a premium IOL patient. Although the Acrysof Restor can be refolded within the anterior chamber, doing so would require enlarging the incision. There are several types of IOL scissors that will safely transect a hydrophobic acrylic optic through a small incision. The Osher titanium cutter (Duckworth & Kent Ltd., Hertfordshire, England) works well through the phaco incision. The Packer/Chang IOL Cutter (Microsurgical Technology, Redmond, WA) is a microscissors that can be inserted through a paracentesis incision while the surgeon fixesates the optic with a forceps through the phaco incision.

GUILLERMO ROCHA, MD, FRCSC

Although a metallic fleck embedded in the lens implant is not cosmetically pleasing, it represents in my mind a problem that is easy to remedy. On the other hand, one has to wonder from where the piece came, because it may be a subtle sign of other issues that need to be corrected. The first observation should be whether the fragment is shiny metal or a rusty particle. One should then examine all of the instruments that might have touched the lens, including the forceps, the cannula used to inject the viscoelastic agent, and the metal tip in the Monarch injector.

The next question is whether this particle was indeed injected during the lens’ insertion or if it were present prior to that. In the latter case, one should check the phaco needle’s tip and second instruments for possible chatter, loose fragments, or other problems that may affect subsequent surgeries. One should quickly examine the rest of the anterior chamber and review the patient’s history for a possible past injury that may have placed metallic particles in or around the eye.

During final I/A to remove the viscoelastic agent, one should ensure proper irrigation posterior to the iris to release any other particles that may be present. I would not consider exchanging the IOL due to the peripheral location of the fragment. Finally, but prior to the removal of the viscoelastic agent, I would simply take the capsulorhexis forceps and remove the fleck.
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