Complications From Prior Cataract Surgery

IOL exchange with iris repair.

BY UDAY DEVGAN, MD, FRCS(GLASG)

Cataract surgery is a safe procedure with a long track record of success, but like every surgery, it carries some degree of risk. Multiple comorbidities in a patient may predispose him or her to complications, as in this case. In addition to poor pupillary dilation and a dense cataract, the complexity of the case was heightened by intraoperative floppy iris syndrome.

CASE PRESENTATION

The patient had undergone a complicated cataract surgery approximately 1 year prior to presenting to my clinic. During the initial consultation, he noted that the vision in his right eye was still blurred and that he was suffering from glare and ghosting, even with his optimal spectacle prescription. The examination showed a nasally decentered three-piece acrylic IOL, with the optic in the capsular bag but the trailing haptic above the capsulorhexis and in the sulcus. There was a 2-clock-hour area of sectoral iris loss under the temporal clear corneal incision. Presumably, the patient had experienced an extensive prolapse of the iris material and then iatrogenic damage, which led to the loss of iris stromal material and deformation of the pupil (Figure 1).

Figure 1. There is a sectoral area of iris loss and a nasally decentered three-piece IOL. The dotted blue line indicates the position of the optic.

IOL EXCHANGE

This patient would certainly have benefited from at least a repositioning of the IOL. Because I could not determine if the nasal haptic were intact, however, I felt that the best course of action would be to perform an IOL exchange. I wanted to explant the decentered IOL and replace it with a new, defect-free lens. It turned out that the nasal haptic was bent and deformed, likely at the time of the IOL's insertion, and it would not have been possible to mend and preserve the damaged lens implant.

To surgically repair and rehabilitate an eye such as this one requires a lengthy and involved surgery, so it is crucial to schedule plenty of time in the OR. To ensure the patient's comfort during the surgery, an anesthetic block can be administered along with systemic sedation. The first step is to inflate the anterior chamber with a viscoelastic and then lift the iris in all four quadrants to determine the exact position of the IOL and the status of the posterior capsule as well as to identify any complicating factors. The surgeon can use iris hooks or a retracting device to keep the iris tissue out of the way during the lens exchange, although in this case, I simply used my chopper.

To viscodissect the anterior capsule from the optical

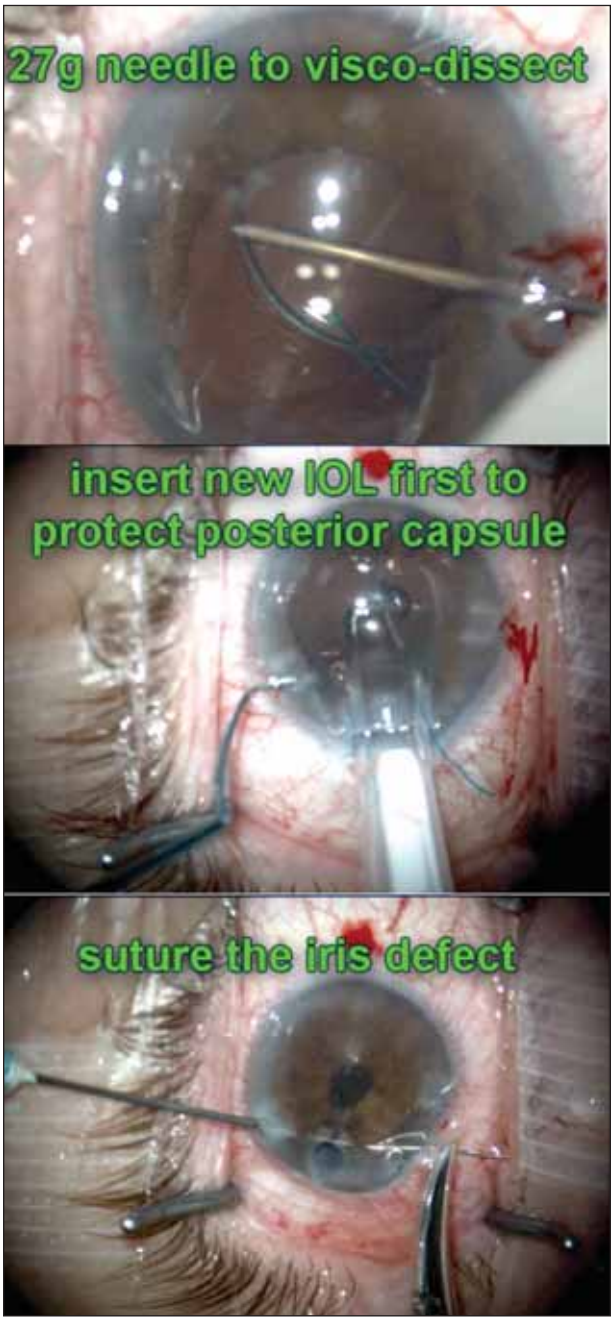

Figure 2. First, Dr. Devgan uses a 27-gauge needle on the viscoelastic syringe to dissect the anterior capsular rim away from the IOL optic. Next, he inserts the new IOL before cutting out the old IOL so that the former can protect the posterior capsule. Using a 25-gauge needle to dock and guide the 10–0 suture needle out of the eye, Dr. Devgan then sutures the iris defect while the eye is full of viscoelastic.

surface, I placed a sharp 27-gauge needle on my dispersive viscoelastic syringe via the Condon technique. This allowed the viscoelastic to penetrate under the anterior

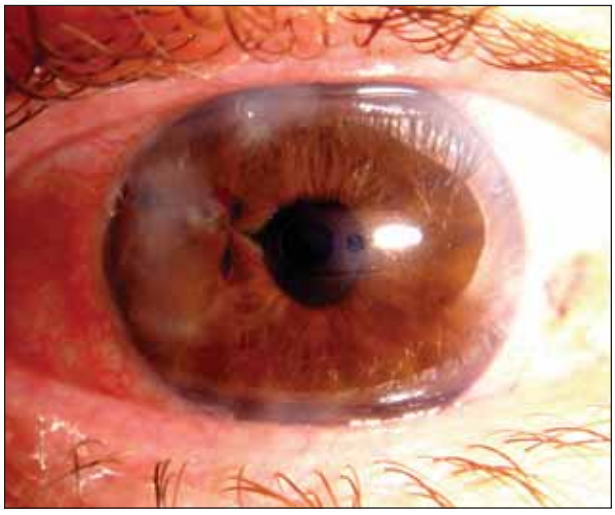

Figure 3. At the end of the case, the new IOL is well centered, and the iris defect is closed, resulting in a round pupil.

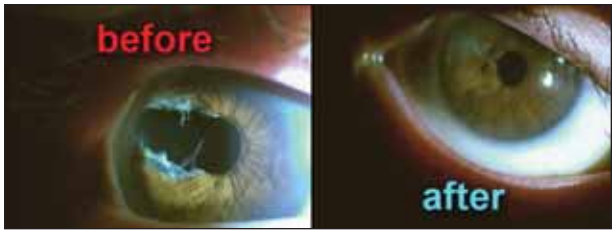

Figure 4. The before and after pictures show a significant improvement in the cosmetic appearance of the eye. More importantly, the patient reported a dramatic improvement in his vision.

capsular edge and dissect apart the capsular leaflets in this narrow space. After creating a gap between the optic and the capsule, I switched back to the 27-gauge blunt cannula in order to prevent capsular damage. Making two paracentesis incisions 180º apart from each other allowed me full access to the capsular bag for complete viscodissection of the IOL.

I carefully dissected the old IOL out of the capsular bag and brought the lens into the anterior chamber. While the old IOL was still in the anterior chamber, I injected the new IOL into the ciliary sulcus, because the capsular bag was partially closed due to fusion of the anterior and posterior leaflets. The new IOL thus protected the posterior capsule from damage, as I bisected and removed the old IOL from the eye. The microscissors have sharp tips that could have damaged the posterior capsule if the new IOL had not been there to protect it. I removed the pieces of the old IOL from the anterior chamber and reassembled them outside the eye to ensure that all of them had been successfully explanted.

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REPAIR OF THE IRIS

I used 10–0 Prolene (Ethicon, Inc., Somerville, NJ) on a long straight needle to repair the iris defect. In most situations, iris defects of 2 clock hours or less can be successfully sutured, whereas larger sectoral defects may be better addressed by a prosthetic iris implant. The 10–0 suture was passed through the peripheral cornea or limbus and into the iris stroma, which was somewhat atrophic and fragile. A 25-gauge needle helped to guide the suture into the receiving iris tissue and then out the paracentesis incision. I used a McCannell knotting technique to tie the suture securely via the main temporal incision. Alternatively, one could use the Siepser knotting technique if the iris defect were located away from the temporal corneal incision. I repeated this process and placed more interrupted 10–0 sutures to completely close the defect (Figure 2). After removing the viscoelastic from the eye, I hydrated and sealed the corneal incisions.

OUTCOME

The postoperative period was uneventful, with progressive healing over the course of the next few weeks. The patient recovered excellent vision and no longer had issues with glare or ghosting. An additional benefit was restoration of the anatomy with an excellent cosmetic appearance (Figure 3).

Complications from cataract surgery can happen at the hands of any surgeon. Fortunately, it is often possible to restore vision to the patients who have suffered from these difficulties. The risks are higher, and the procedure is more challenging than the original cataract surgery. Nevertheless, the potential benefit often makes the effort worthwhile (Figure 4). ■

A video of this case is available at http://eyetube.net/?v=murim.

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