Small-Incision IOL Exchange Technique

Refolding and explanting an IOL without enlarging the corneal incision.

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Modern cataract surgery with IOL implantation is one of the most commonly performed and successful operations. Many surgeries are now performed using a small-incision, minimally invasive approach. There are various preloaded or other IOL insertion systems that allow the surgeon to insert an IOL without enlarging the incision. Unfortunately, complications involving the IOL occasionally arise, resulting in the need for explantation. These complications include a damaged IOL, incorrect IOL power, visual dysphotopsia, and IOL opacification.

Numerous techniques for explanting foldable IOLs inserted during small-incision surgery have been described. These methods, which aim to allow IOL removal through small incisions, include IOL bisection,1 trisection,2 and the division of the lens into multiple pieces.3

This article describes a technique for explanting a posterior chamber IOL without needing to enlarge the incision or cut the haptic and optic. This method can be performed with commonly available surgical instruments and provides a simple and effective way to remove an IOL through a small incision, thereby hastening patient recovery and improving outcomes.

CASE STUDY
An 88-year-old woman presented with reduced vision in both eyes for 1 year. Her visual acuity was 6/12 in the right eye and 6/60 in the left eye. On examination, she had bilateral cataracts, and the remaining ocular examination was unremarkable. Phacoemulsification was performed in the patient’s left eye under local anaesthesia and through a superior 2.75-mm corneal incision. The removal of the nucleus as well as irrigation and aspiration of lens matter was uneventful. During IOL (AcrySof IQ; Alcon Laboratories, Inc.) insertion, one of the haptics was broken, and IOL explantation was required due to instability.

SURGICAL TECHNIQUE
The technique involved injecting an ophthalmic visco-surgical device (OVD) such as Healon (Abbott Medical Optics Inc.) under the IOL to inflate the bag and prolapse the IOL into the anterior chamber (Figure 1). The anterior chamber was further deepened to create some space anteriorly to the prolapsed IOL (Figure 2). The superior haptic of the IOL was exteriorized to make it
easier to fold the IOL, and a Sinskey hook was introduced through the superior phaco incision to support the IOL from behind (Figure 3). A lens insertion forceps (Alcon Laboratories, Inc.) was used to fold the lens in the anterior chamber, keeping parallel to the Sinskey hook (Figure 4). After folding the IOL, the Sinskey hook was withdrawn, and the folded lens was explanted (Figure 5). Both instruments were inserted through the same incision, and the folded IOL was explanted without the need to enlarge the incision. For a video demonstration of the procedure, visit eyetube.net/?v=pohib.

There was no incidence of posterior capsular tear or vitreous loss. A three-piece IOL (AR40; Abbott Medical Optics Inc.) was folded and inserted in the capsular bag without enlarging the incision. The patient achieved a BCVA of 6/6 in 4 weeks.

**KEY CONSIDERATIONS**

It is important to use enough OVD to bring the IOL out of the bag and prevent corneal endothelial damage. While folding the IOL, care should be taken to ensure that the tip of the Sinskey hook is facing on the side to prevent complications such as posterior capsular tear and vitreous loss. This technique is only useful for foldable lenses such as acrylic IOLs, which are commonly used worldwide.

Numerous techniques for explanting a foldable posterior chamber IOL through a small incision have been described. Essentially, the surgeon can choose between refolding the IOL in the anterior chamber (for acrylic IOLs) or cutting the IOL. However, I have found that refolding the IOL is a simple yet safe and effective technique for removing the lens through a small clear corneal incision. Additionally, this method does not require special cutting instruments. I have used this technique in five cases so far and have not encountered any complications.

**TAKE-HOME MESSAGE**

- Refolding the IOL is a simple, safe, and effective technique for removing the lens through a small incision, thereby hastening patient recovery and improving outcomes.
- While folding the IOL, care should be taken to ensure that the tip of the Sinskey hook is facing on the side to prevent complications.
- This method is only useful for foldable IOLs and can be performed with commonly available surgical instruments.

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