

Vitrectomy for Dislocated IOLs

BY STANLEY CHANG, MD

There are many factors that influence the management of dislocated IOLs, including age of the patient; corneal status; degree of capsular support; type of IOL; whether the dislocation is in or out of the capsular bag; the presence of comorbidities such as cystoid macular edema, retinal detachment, or glaucoma; and whether the IOL is dislocated with a capsular tension ring.

In a study of 24 cases of out-of-the-bag IOL dislocations by Hayashi et al,¹ 45.8% of cases resulted from secondary IOL implantation during which there was inadequate judgment of the size of the posterior capsulotomy or the capsular support. Surgical complications were implicated in 12.5% of the cases; mature cataracts in 12.5% of the cases; pseudoexfoliation in 8.3%; and no discernable causes in the final 12.5%.

Recently, in-the-bag dislocations have been more frequently reported. Davis et al² reported that in 86 eyes, 50% were the result of pseudoexfoliation, 19% were caused by prior vitrectomy, 2% by uveitis, and 23% were of unknown origin. Hayashi et al³ reported that in 38 eyes, 44.7% dislocations were caused by pseudoexfoliation, 10.5% by retinitis pigmentosa, 5.3% by prior vitrectomy, 5.3% by trauma, and 5.3% by high myopia.

A general principle in dislocated IOLs is to choose the surgical approach that will minimize the risks to the eye over the lifetime of the patient, avoiding if possible the need for a large incision into the eye.

TECHNIQUES FOR MANAGING DISLOCATED IOLs

Many recently described techniques for managing dislocated IOLs have evolved around reports of dislocated posterior-chamber sulcus-fixated IOLs that were sutured into the ciliary sulcus. Two studies reported

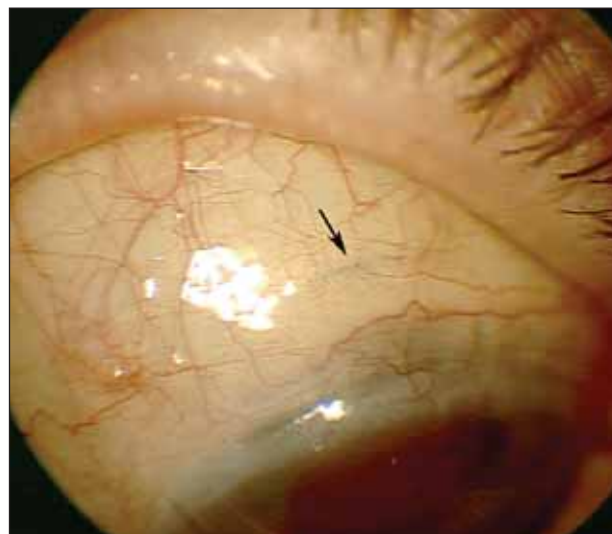


Figure 1. Externalization of the haptic.

on the incidence of late suture breakage. The first, by Vote et al⁴ reported that 27.8% of eyes required reoperation over a mean time of 4 years postoperative for late suture breakage. Another study, by Asadi et al⁵ reported that 24% of children in their study had late suture breakage ranging from 7-10 years after IOL implantation. As the technology for anterior-chamber IOLs has improved, there has been an increased interest in IOL removal and replacement with anterior-chamber IOLs.

There has also been an increased interest in intrascleral fixation, in which the IOL is fixated with minimal tilt and no sutures. This can be achieved only with a 3-piece polypropylene-haptic IOL. The technique involves externalizing the haptic (Figure 1) through a limbal incision and grasping it with 25-gauge Grieshaber DSP (Alcon Laboratories, Inc.) forceps. A

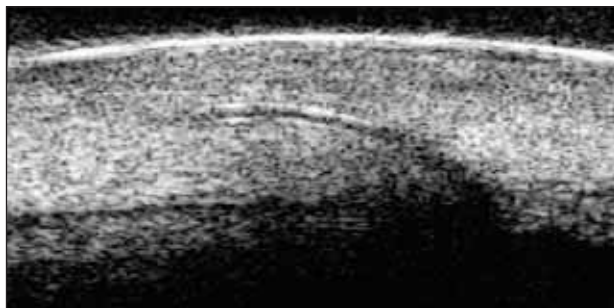


Figure 2. The haptic buried in a scleral tunnel created by a 25-gauge needle.

small scleral tunnel is created using a 25-gauge needle (Figure 2). Recently, a large multicenter study of this technique demonstrated a 95% success rate. The main complications in 3 of 63 eyes were dislocated IOL in 2 and iris capture in 1; none had breakage of the haptic.⁶

CASE No.1

A patient aged 40 years who had a history of congenital cataracts that were removed at age 20 presented to me with a dislocated IOL and a retinal detachment. We initially managed this patient with iris hooks and a scleral buckle. At 1-year postoperative, however, she requested that her implant be repositioned as she was not happy using a contact lens. We prolapsed the optic through the pupil and then sutured the optic to the iris with 2 mechanical sutures using a curved CIF-4 needle (Ethicon).

We placed another incision inferiorly, keeping the infusion turned off so that the anterior chamber would not collapse, and passed a suture through. After ensuring that the IOL was centered, we pushed it back through the pupil. After the procedure, the patient's vision was 20/20.

CASE No.2

A patient presented with a subluxated capsule and psuedoexfoliation. He had undergone a prior complicated cataract procedure after which the IOL had fallen into the sulcus. The pupil was small, so we sutured the implant into the sulcus inferiorly and superiorly. We made corneal incisions into the limbus to allow the sutures to pass and filled the anterior chamber with Healon5 (Abbott Medical Optics). At this stage of the procedure, there was no infusion into the vitreous. Although the capsule was holding the implant, it was unstable, so we passed a 25-gauge needle through the posterior limbal incision with a straight polypropylene suture, making 2 passes for a double-armed suture. In this technique, the inferior 25-gauge

needle moves below the haptic on 1 side and above the optic on the second pass so that it loops the haptics, and then it is tied within the groove, closing it. We repeated the same maneuver superiorly. We then proceeded with vitrectomy to remove the retained capsule and particle material. We removed the cortex and capsule so that the patient could achieve better vision without halos and glare. This patient did well, as the fellow eye had an existing dislocated IOL due to exfoliation.

SUMMARY

There are many options in the surgical management of dislocated IOLs. Because techniques are constantly evolving, it is important to keep abreast of these changes. In addition to reviewing the current literature, websites such as Eyetube.net can be helpful in providing videos of newer techniques for managing dislocated IOLs. ■

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