

Avoiding UGH Syndrome

Not placing an IOL entirely in the capsular bag can give rise to an array of problems.

BY SAMUEL MASKET, MD

With only occasional exceptions, the IOL is meant to be implanted entirely within the capsular bag. No PCIOL currently available in the United States is designed or FDA approved for placement in the ciliary sulcus, but we cataract surgeons do just that, off label, when necessary.

As we have learned, however, particularly with regard to single-piece acrylic IOLs, inadvertently placing a lens or even one of its haptics in the sulcus can have serious consequences.¹ The resulting problem is often chronic chafing of the iris with various manifestations of uveitis-glaucoma-hyphema (UGH) syndrome (Figure 1). This complication also includes vitreous hemorrhage. When UGH syndrome is accompanied by vitreous bleeding, we may confuse the condition with retinal detachment or retinal vascular disease. Moreover, because the UGH spectrum can present as intermittent obscurations of vision, it may masquerade as carotid occlusive disease. In addition, improperly implanted IOLs can induce other problems, including decentration

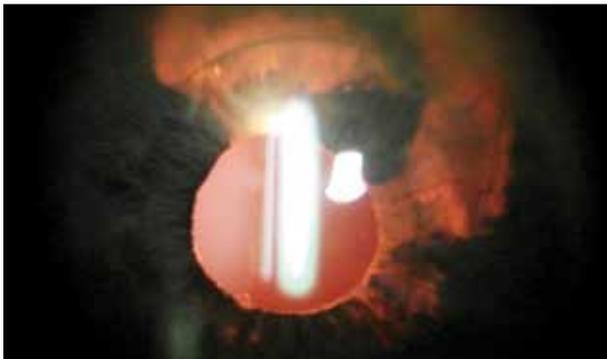


Figure 1. Marked iris damage and transillumination defects are visible in this eye in which a single-piece acrylic IOL is in contact with the superior iris. The IOL is seen through the iris defect. The patient suffered from UGH symptoms for 7 years after cataract surgery before the IOL was exchanged.

with associated optical aberrations, edge glare, astigmatism from a tilted lens, and higher-order aberrations.

Although inappropriately placed single-piece acrylic IOLs are most commonly associated with the UGH syndrome, this complication can also be caused by three-piece IOLs, as the following case will illustrate.

CASE REPORT

A 69-year-old woman had undergone bilateral cataract surgery (1 week apart) 5 years prior to her current

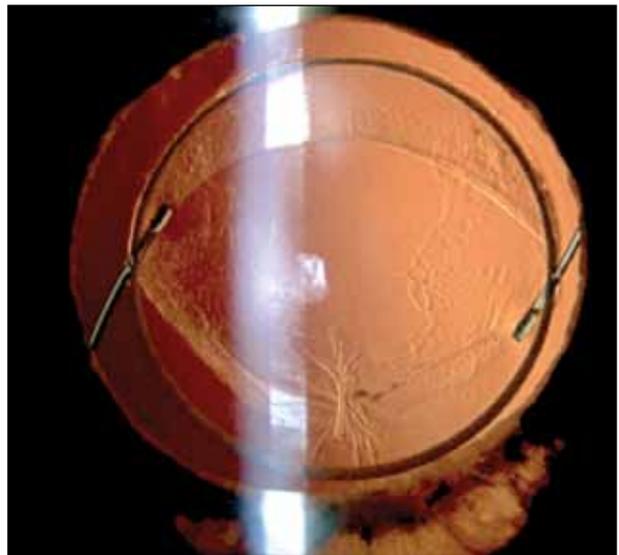


Figure 2. Red reflex view reveals a well-centered three-piece IOL. Although the capsular bag encases the upper portion of the lens, the inferior edge of the optic sits anterior to the capsule, resulting in marked chafing of the overlying iris and a large transillumination defect. The temporal support loop is in the ciliary sulcus, whereas the nasal loop is within the capsular bag. The posterior capsule is intact with fibrotic scarring and peripheral opacification.

presentation. Surgery was seemingly uneventful for each eye, and the referring ophthalmologist implanted a +3.00 D, three-piece acrylic IOL (AcrySof MA60MA; Alcon Laboratories, Inc.) in each eye to correct preexisting high myopia. The IOL was not fully confined to the capsular bag, however, in the patient's right eye (Figure 2). The anterior capsule covered the superior part of the optic, but its lower edge sat in front of the capsulotomy, after the temporal loop missed the capsular bag. Because this IOL model in low powers has a meniscus optic with a thick edge and the acrylic material has a tacky consistency, recurrent iris chafing ensued, and there was a large inferior iris transillumination defect. As a result, the patient has sustained recurrent microhyphemas and vitreous hemorrhages.

At surgery, I carefully opened the capsular bag with gentle blunt dissection and viscodissection and repositioned the IOL fully within the capsular bag. All bleeding subsequently ceased, and in a short time, all symptoms subsided.



ENSURING PROPER IMPLANTATION

After implanting the IOL, the surgeon should “spin” the lens within the capsular bag to verify its proper placement. Rotation will be impeded if the IOL is only half in the bag, and the lens generally will not center well if it is in the sulcus. Should the pupil be too small to allow adequate visualization of the IOL-bag relationship, the surgeon can retract the iris with any of a number of instruments. In complex situations, he or she may opt to stain the anterior capsule with trypan blue for a better view of the capsule's edge.

CONCLUSION

Placing the IOL and its haptics fully in the bag during the initial cataract procedure will prevent virtually all of the described complications. For surgeons who have not mastered this essential part of cataract surgery, the femtosecond laser holds great promise. ■

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1. Chang DF, Masket S, Miller KM, et al; ASCRS Cataract Clinical Committee. Complications of sulcus placement of single-piece acrylic intraocular lenses: recommendations for backup IOL implantation following posterior capsule rupture. *J Cataract Refract Surg.* 2009;35(8):1445-1458.