

# AN EPIPHANY ON PROLAPSE



Just when you think you have it all figured out...

BY LORRAINE M. PROVENCHER, MD

I owe a great deal to the Iowa City Veterans Affairs Hospital, where the bulk of my cataract training took place. It was there, among the terazosin and tamsulosin, that Thomas Oetting, MS, MD, taught me how to handle the floppiest of irides. By the end of residency, I thought I knew all I needed to know about iris prolapse. Then I started glaucoma fellowship.

Glaucoma clinics, by nature, select for challenging cataract cases. I found myself removing larger cataracts from smaller eyes. A 2.5-mm anterior chamber (AC) went from feeling tight to feeling normal, and a 3.0-mm AC felt downright luxurious. I soon noticed that my go-to maneuvers for intraoperative floppy iris syndrome (IFIS)-related prolapse were failing. Through a few tough cases and the mentorship of Manjool Shah, MD, I realized something that may seem obvious to others: Prolapse in smaller eyes is very different from IFIS-related prolapse (Figure). Here is what I have learned.

## ABOUT IRIS PROLAPSE

Iris prolapse of any kind occurs when IOP exceeds extraocular pressure to the point that intraocular contents egress along the pressure gradient. Anything that increases efflux (eg, leaky wounds or pressing down on a wound) or increases the pressure gradient (eg, aggressive hydrodissection or posterior pressure) may predispose the iris to prolapse.<sup>1</sup> Therefore, in at-risk eyes, careful wound construction and mindfulness of IOP are universally important.



Figure. Iris prolapse in a patient with intraoperative floppy iris syndrome (IFIS).

## IFIS-RELATED PROLAPSE VERSUS PROLAPSE IN SHORT EYES

In IFIS-related prolapse, the iris is billowy and more susceptible to pressure-driven flow.<sup>2</sup> Intracameral epinephrine, cohesive OVD, and iris retraction devices are useful to stabilize the iris. If prolapse occurs, the surgeon should first decompress the AC through the paracentesis. If prolapse occurs during hydrodissection, fluid may be trapped behind the lens, vaulting it forward. In this scenario, the surgeon should blot down on the lens to move the fluid back into the AC. After reducing the pressure gradient, a simple “noncontact” balanced salt solution jet to the main wound or a dispersive OVD can be used to push the iris back into place. Another gentle technique entails stroking the cornea over the main wound (in an endothelial keratoplasty fashion) to

nudge the iris out of the wound.<sup>3</sup> If these maneuvers fail, the surgeon can enter through the paracentesis to manually sweep the iris into place.

Prolapse in a small eye is more challenging to remedy, making prevention crucial. It takes less added volume to raise the intraocular-to-extraocular pressure gradient, and, anatomically, the iris may rest closer to the cornea. The surgeon should first aim to minimize posterior globe pressure (eg, reverse Trendelenburg positioning, preoperative mannitol, or adjustment of the eyelid speculum). He or she should also consider making the main wound slightly longer to increase the distance from the iris to the internal wound ostium. It is important to resist the temptation to overfill the AC with OVD in an attempt to deepen the AC and to burp some OVD before performing hydrodissection.

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If the pupil is small, iris hooks take up less space than a ring and can be oriented in a diamond configuration so that there is a subincisional hook. Hooks can also be removed at the end of the procedure without OVD, decreasing the risk of late prolapse.<sup>4</sup> If prolapse occurs, the surgeon should generously decompress the AC by burping the paracentesis. It may be necessary to aspirate additional OVD from the subincisional sulcus or remove fluid from behind the lens. Once the intraocular volume has been reduced, the iris can be swept back into the eye.

With both IFIS and short eyes, a prolapsed iris has a tendency to prolapse again. A subincisional hook can be placed at any point to hold the iris back.<sup>5</sup> As the case comes to completion, the surgeon should use low-flow irrigation/aspiration, lift up slightly with the cannula when hydrating wounds, and avoid overfilling the AC.<sup>1,3</sup>

**CONCLUSION**

There are simple but significant differences in IFIS-related prolapse versus prolapse in a small eye. I was out of residency and into fellowship when I truly came to appreciate these differences. These small “aha” moments, no matter how basic, add to the joy of our medical education, and I think it is important to set aside our pride and share these realizations. One person’s shared learning experience can bend the learning curve for another, which ultimately benefits our patients. So, what was your last epiphany? ■

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- Financial disclosure: None