

“Oetrogenic” Hyphema in an Eye With a Small Pupil and a Floppy Iris

BY THOMAS A. OETTING, MS, MD

iat-ro-gen-ic: induced inadvertently by a physician or surgeon or by medical treatment or diagnostic procedures

oet-ro-gen-ic: induced inadvertently by Oetting by medical treatment or diagnostic procedures

I have encountered several tough cases over the years, but this one stands out. Maybe writing about this case will make my bad dreams stop; sometimes, morbidity case rounds can be cathartic. I also hope readers glean something useful from my experience.

CASE PRESENTATION

The patient was a 70-year-old man who lived in a nursing home. Due to dementia and multiple medical problems, including benign prostatic hyperplasia treated with tamsulosin (Flomax; Boehringer Ingelheim Pharmaceuticals, Inc.), he was unable to take care of himself. The patient’s array of medical problems made him a poor candidate for general anesthesia. It was difficult to examine his eyes, because he could not move into the slit lamp.

The patient’s caregivers noted a progressive decline in his visual function, and after many visits to our clinic, my colleagues and I eventually decided to remove the obvious brunescient nuclear sclerotic cataracts from both of his eyes. The cataract in the patient’s left eye was worse than the one in his right eye. He denied ever having eye surgery but said that he might have experienced blunt trauma to his left eye. On examination with a portable slit lamp, I determined that he had clear corneas in both eyes, mild phacodonesis in the left eye, and very thick nuclear sclerotic cataracts with some narrowing of the angle in both eyes.

SURGICAL EVENTS

My colleagues and I decided to operate on the patient’s left eye first. We struggled to determine the

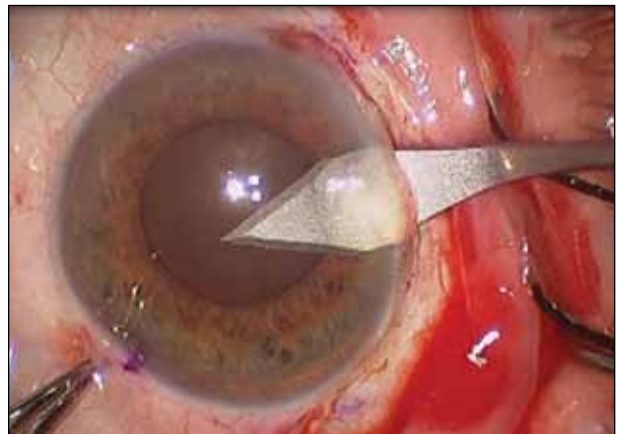


Figure 1. Standard ECCE incision at the limbus.

best surgical approach. Because of the density of the lens and mild phacodonesis, we decided to start the procedure with phacoemulsification, but we were prepared to transition to large-incision extracapsular cataract extraction (ECCE). We were concerned that, even with capsular hooks and rings, the density of the lens and the loose zonules could cause lenticular material to enter the vitreous. Right from the start, however, we realized that the zonules were weaker than we expected, and as a result, we proceeded directly to ECCE.

I successfully administered a retrobulbar block with mild sedation. I performed a 12-mm peritomy, made a limbal groove with a 64 blade, and made the initial opening in the anterior chamber with a keratome (Figure 1). A can-opener capsulotomy revealed more significant zonular weakness than I had observed with the portable slit lamp (this is common). I freed the nucleus and positioned it with a dispersive viscous viscoelastic. I used corneoscleral scissors to extend the wound to the right and left to about 11 mm. To allow for a quick closure if needed, I placed two 7-0 Vicryl

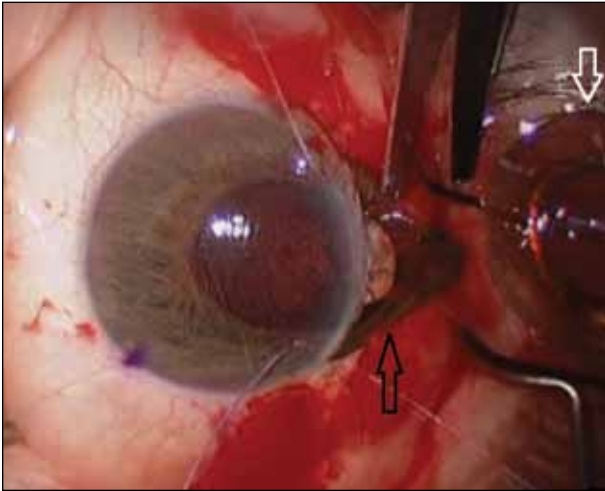


Figure 2. The lens loop (white arrow) catches the iris and causes an iridodialysis (black arrow).

safety sutures (Ethicon, Inc.) about 6 mm apart. The lens was ready to be removed.

With one small slip, the case went bad. As I constructed the wound, the pupil started to come down, most likely due to the tamsulosin. I had decent control of the lens, so I ignored the small pupil and proceeded with the surgery. I used a lens loop as usual to express the lens. Because of the patient's small pupil and floppy iris, however, the lens loop caught the iris and created a superior iridodialysis when I removed the lens (Figure 2). The bleeding started almost immediately, but at first, my colleagues and I did not realize the significance or scope of the hemorrhage (Figure 3).

The hemorrhage worsened. I closed the wound and attempted to use the anterior vitrector at a low cut-

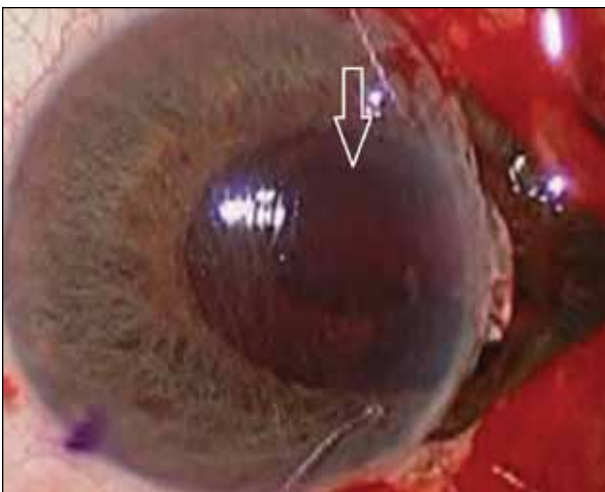


Figure 3. The hyphema starts almost immediately after expression of the lens.

“The postoperative course was complicated due to exposure of the tube many months later and poor resolution of vision.”

ting rate to remove the hemorrhage, which eventually formed a dense clot in the anterior chamber (Figure 4). I did not feel comfortable using the I/A device, because I was not able to see the posterior capsule and did not know if vitreous were present. Eventually, I completely closed the wound and conjunctiva, leaving my patient aphakic with a dense hyphema.

OUTCOME

My colleagues and I closely observed the patient postoperatively, which was challenging because of the distance between our office and his nursing facility. Furthermore, his nurses had to drive on tricky roads during the middle of a snow-filled winter in Iowa. The main problems we faced in this case were ocular hypertension from the hyphema, residual cortical material, and the use of a topical steroid. After several weeks of hopeful observation with medical treatment for the patient's elevated IOP, one of our practice's glaucoma specialists performed an anterior vitrectomy, implanted an ACIOL, and most importantly, placed a tube shunt. The postoperative course was complicated due to exposure of the tube many months later and poor resolution of vision.



Figure 4. Eventually, the eye is closed with a dense clot in the anterior chamber.

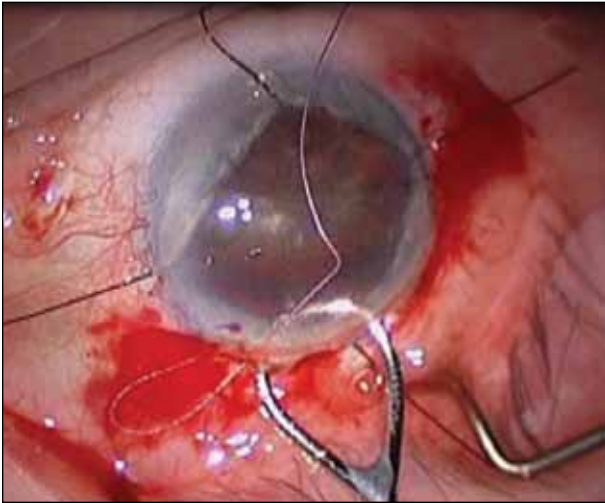


Figure 5. Iris hooks in a diamond configuration to control the iris during the lens' expression.

I eventually got up the nerve to extract the cataract from the patient's right eye. That cataract was less dense, and the zonules were more secure. We worked with anesthesia and the medicine service to be able to perform the case under general anesthesia in order to keep the patient still throughout the surgery. That procedure went much better. I performed phacoemulsification and inserted a Malyugin Ring (Microsurgical Technology) and a standard capsular tension ring.

LESSONS LEARNED

The case went bad when I lost control of the iris during the expression of the lens. One of the toughest things for me to accept is that William Dupps, MD, PhD, and I had published an article years earlier proposing the use of iris hooks in a diamond configuration (Figure 5) in cases with a small pupil to help control the iris during ECCE.¹ What is most ironic about the case, I suppose, is that we did not follow the technique that we published! The most significant lesson I learned is to follow my own advice and use iris hooks in a diamond formation in eyes with small pupils. ■



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1. Dupps WJ Jr, Oetting TA. Diamond iris retractor configuration for small-pupil extracapsular or intracapsular cataract surgery. *J Cataract Refract Surg.* 2004;30(12):2473-2475.