

A Brunescient Cataract, Small Pupil, and Intraoperatively Shallow Chamber in an Elderly Patient

BY SONIA H. YOO, MD

My most challenging case involved my first encounter with a choroidal hemorrhage. The patient was my colleague's 89-year-old mother. He brought her to see me for an evaluation for cataract surgery.

PATIENT'S HISTORY

The patient had a history of hypertension and severe glaucoma, which was worse in her left eye. She was taking timolol-dorzolamide (Cosopt; Merck & Co., Inc.) b.i.d. OS, brimonidine tartrate (Alphagan; Allergan, Inc.) b.i.d. OS, and latanoprost (Xalatan; Pfizer, Inc.) OU. She had brunescient nuclear sclerotic cataracts in both eyes. Despite a reasonable Snellen acuity, the patient complained of glare and difficulty reading small print. Her UCVA was +3.00 +1.25 X 15 = 20/200 OD and -0.50 +1.50 X 65 = 20/80 OS. With glare testing, however, the patient's visual acuity dropped to 20/70 OU. Her IOP measured 26 mm Hg OD and 22 mm Hg OS. She had

small pupils that did not dilate well and cup-to-disc ratios of 0.9 OU (Figure 1). The patient underwent uneventful phacoemulsification in her left eye and was scheduled for cataract surgery on her right eye 1 month later.

SURGICAL EVENTS

On the day of the second surgery, I was confident that, despite the dense cataract and small pupil, the patient would do fine, just as she had 1 month earlier. I reassured her of my anticipation that the surgery would go well. Unfortunately, I was wrong.

During surgery, I extracted the lens nucleus using a horizontal phaco chop technique. Cortical removal, however, proved to be more challenging. The pupil had become quite miotic. I used a single I/A handpiece, as I usually do, and was able to clean up all of the cortex except for that in the subincisional region. As I attempted to remove this last bit of cortex, I engaged the capsule and created a tear, which extended around the posterior capsule. Suddenly,

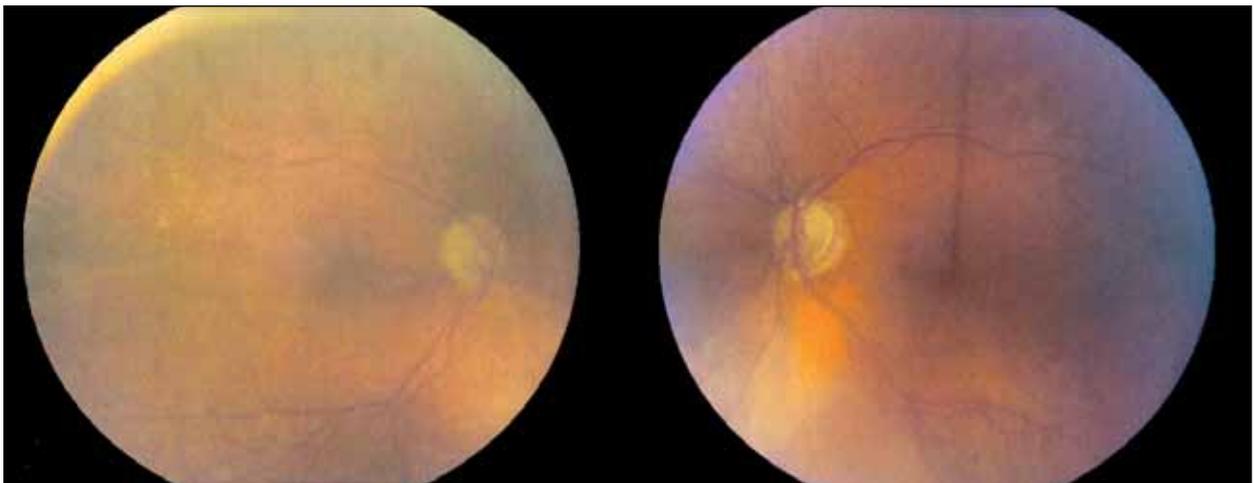


Figure 1. Both of the patient's eyes have a cup-to-disc ratio of 0.9 and a nuclear sclerotic cataract.

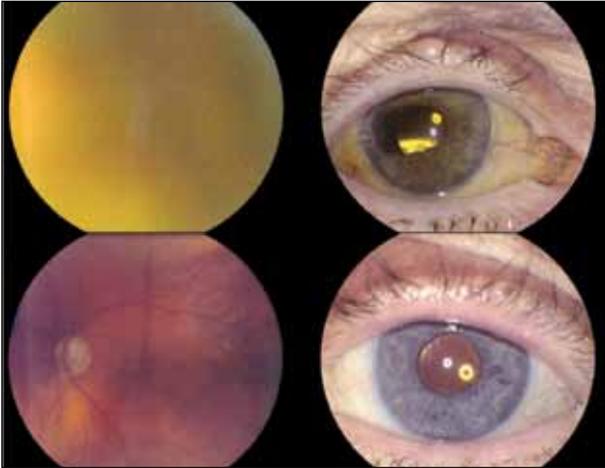


Figure 2. One week after surgery, the patient's right eye has an irregular pupil and no red reflex, and there is no view to the fundus due to a persistent choroidal hemorrhage (upper left and upper right). The anterior segment and fundus are clearly visible in her left eye (bottom left and bottom right).

the capsular bag and anterior chamber became shallow, and the bag and vitreous started to extrude through the wound. The eye became rock hard, and the red reflex became dark. I began to sweat. I recognized the signs of a choroidal hemorrhage.

I had never before experienced this dreaded complication. Although I was reluctant to further pressurize the eye, I used a retentive viscoelastic to keep the bag and vitreous inside so that I might close the wound. After struggling with sutures, I was finally able to close the incision, albeit with some incarceration of the iris. I left viscoelastic in the eye to tamponade the hemorrhage and keep the chamber slightly formed. I abandoned further surgery to minimize additional complications.

Postoperatively, I admitted the patient to the hospital and had a long and candid conversation with her and

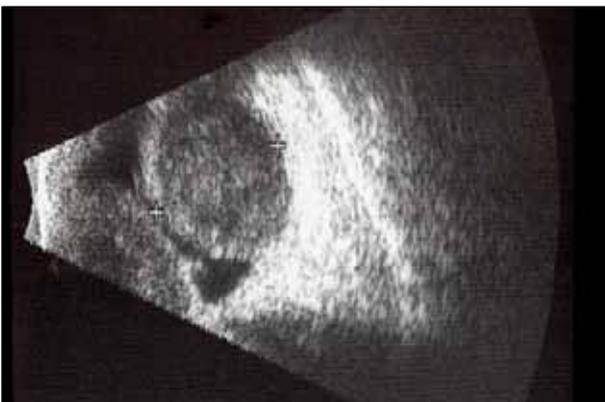


Figure 3. A B-scan ultrasound shows a kissing choroidal hemorrhage.

her family—six children, all of whom are physicians, including my colleague. All of us were upset by the events that had transpired during surgery. Overnight, I was concerned that the high pressure in the patient's eye might snuff out her remaining functioning axons. The high pressure also nauseated her. We both had a rough night despite antiemetics and mannitol.

On the first postoperative day, the patient's visual acuity was light perception, and the IOP measured 9 mm Hg. At the 1-week postoperative visit, her visual acuity was unchanged (Figure 2). The B-scan ultrasound showed a kissing choroidal hemorrhage (Figure 3). I monitored her closely. Three weeks after surgery, she underwent drainage of the choroidal hemorrhage in her right eye.

OUTCOME

Two months after the patient's hemorrhage was drained, her visual acuity improved to 20/100 with resolution of the choroidal detachment (Figure 3). Four months later, she was admitted to the hospital for organ failure due to metastatic carcinoma. She passed away shortly thereafter.

LESSONS LEARNED

I learned two important lessons from this case. First, small pupils can be particularly difficult during I/A of the lens cortex. I find it is worth considering a bimanual technique in this situation. Second, elderly patients often have comorbid disease that can go unrecognized. I now bear in mind that complicated eye surgery in an elderly patient may be an extraordinary stressor that will hasten the manifestation of other comorbid and potentially life-threatening conditions. If faced with a similar situation today, I would probably still advise surgery in this patient. However, I would carefully discuss with the patient and her family the increased risks of cataract surgery in the elderly, in particular the risk of intraoperative choroidal hemorrhage. ■

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