In several respects, pseudoexfoliation (PXF) cases seem to be exactly suited to the use of a capsular tension ring (CTR). PXF is frequently associated with cataracts, and the condition often increases the rate of surgical complications by weakening the zonules to produce a loose capsular bag. This article focuses on how CTRs may or may not help in cases of PXF.

POSSIBLE ADVANTAGES

In a case of PXF, the capsular bag often lacks tension, which increases the risk of intraoperative capsular rupture and makes it more difficult for the surgeon to rotate the nucleus, thereby increasing stress on the zonules. Additionally, the cortex of these eyes may be stickier, which will complicate the removal of this material with I/A.

Patients with PXF may be divided into two main groups. Those in the first group have barely noticeable PXF, their pupils dilate easily, and their cataracts are not terribly hard. Performing cataract surgery on these patients is nearly routine. In the second group, the pupils will not dilate, and the cataracts are dense. Capsular phimosis is also a risk, and PCO could necessitate a reoperation on an already compromised eye. Theoretically, a CTR would reduce the chance of both of these complications by supporting the capsule and facilitating the removal of cortical material.

DISLOCATION OF THE CAPSULAR BAG

If a patient with PXF experiences a spontaneous, late dislocation of the entire capsular bag, the presence of a CTR is irrelevant. Three years ago, Nick Mamalis, MD, of Salt Lake City and I presented a series of 15 PXF cases in which the capsular bag became dislocated spontaneously. We now have nearly 100 cases of our own in addition to others’ cases in the US. This complication has occurred with every lens material and all IOL designs. To date, Dr. Mamalis and I have been unable to identify a single predisposing factor other than PXF for the dislocation.

Regardless of the caliber of the initial cataract surgery, it seems that every PXF patient runs the risk of a late, spontaneous dislocation of the capsular bag. The average time to dislocation is 8 years after surgery, but this complication has occurred as few as 3 and as many as 12 years postoperatively.

The key problems here are that we can neither predict when dislocation will occur nor truly determine its incidence. There is no database listing the number of PXF cataract cases performed. Further, we lack statistics on how many patients with PXF have cataracts, information that might enable us to identify factors predisposing individuals to a dislocation of the capsular bag.

WHETHER TO USE A CTR

Unlike with the majority of patients after cataract surgery, it is important to examine patients with PXF every 6 to 12 months postoperatively. This schedule may permit the surgeon to perceive movement of the capsular bag months or years before it becomes fully dislocated. Such a careful regimen of follow-up visits could then enable the surgeon to sew the IOL into the sulcus, and the CTR could serve as a necessary platform for this procedure.

I would argue that surgeons should have a CTR ready for all PXF patients. Because the device increases the cost of the procedure, if the surgeon perceives no zonular weakness or other compromising factors after enter-
ing the eye, he may opt not to use the CTR. Personally, I often use a standard CTR, but I prefer the Capsular Tension Scleral Fixation Ring (Morcher GmbH, Stuttgart, Germany; not currently FDA-approved) designed by Robert Cionni, M.D., in eyes with small pupils, severe glaucoma, and exceptionally hard cataracts. My preference is based on the latter device’s eyelet, which sits above the capsulorhexis and which I may use to sew the ring to the sclera. It is important to note, however, that a standard CTR is inappropriate in the presence of a torn capsule. In such cases, I employ a Capsular Tension Segment Auxiliary Device for Phaco (Morcher GmbH; not currently FDA-approved). The capsular tension segment may also be used with an intact anterior capsule and provides support in 90° of the capsule where it is inserted. By providing support where needed, stabilizing the anterior segment, and thereby reducing complications rates, all of these new devices will be of major value to cataract surgeons.

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