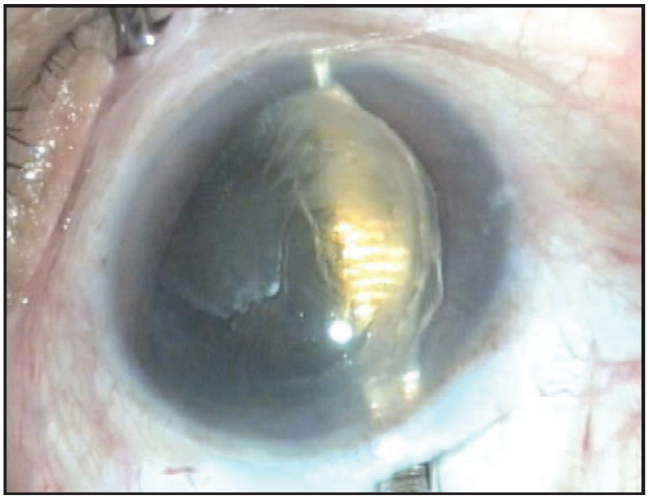

Figure 16-3. Nucleus prolapse using a Simcoe cannula after capsulotomy. The lens is gently lifted into the anterior chamber. Alternative methods include the use of a sinskey hook, hydrodissection, or viscoelastic.

required to provide an exit for the nucleus to be mobilized into the anterior chamber. After capsulorrhexis, the nucleus is gently prolapsed into the anterior chamber by hydrodissection, viscoelastic, with a sinskey hook, or a Simcoe cannula (Figure 16-3). Liberal viscoelastic surrounding the nucleus prevents endothelial injury. This should be performed prior to nucleus expression. The nucleus then is delivered gently out of the eye with viscoelastics or fluid pressure.

Morgagnian Cataracts

Hypermature, morgagnian cataracts often are characterized by weak zonules, tension in the capsular bag, a milky cortex, or a dense mobile nucleus. Capsulorrhexis often is challenging due to a mobile, lax, and fibrotic capsule, as well as cortical pressure. The absence of a protective epinuclear and cortical shell increases the risk of posterior capsular rupture, dropping of nuclear fragments, and zonule dialysis during phacoemulsification.

If continuous curvilinear capsulotomy fails, perform an envelope or V-capsulotomy. After injecting viscoelastic, bring the mobilized nucleus into the anterior chamber bimanually with a spatula or iris repositor from beneath and a sinskey hook from above. Also, the nucleus can be tilted up and the intraocular lens placed into the capsular bag under viscoelastic prior to expression.

Reduced Endothelial Cell Count in the Setting of a Dense Cataract

Patients with endothelial compromise from prior surgery or Fuchs' dystrophy are at risk for pseudophakic bullous keratopathy as a complication of phacoemulsification. The probability of this occurring increases in patients with hard nuclei or shallow anterior chambers.

One way to prevent this adverse result, and endothelial injury in general, is to use abundant viscoelastic to form a soft shell around the lens prior to mobilization. In this approach, a cohesive ophthalmic viscosurgical device is used to form the anterior chamber, and a dispersive ophthalmic viscosurgical device is used to coat the endothelium and surrounding peripheral structures (Figure 16-4). Should the nucleus be large, a larger tunnel can be formed to reduce manipulation during removal, especially with a hard lens.