the central cornea (Fig. 2). Approximately 90 degrees of the angle can be seen.

4. When looking in the mirror, focus the microscope posteriorly because the image of the angle in the mirror is posterior to the focal plane of the cornea and iris.

5. Use an appropriate instrument to separate the iris adhesions: a cellulose sponge to pull the iris posteriorly, an iris sweep or cyclodialysis spatula to press the iris posteriorly or to sweep the adhesions free, a flat-tipped intraocular lens forceps (Shepard style) to spread the iridocorneal adhesions, or a sharp knife or fine scissors to sever dense synechiae.

6. Hold the instrument behind the mirror, and move it forward across the pupil behind the host cornea. Just as it enters the angle, refocus the microscope and visualize the instrument in the mirror. When moving the instrument from the pupil to the angle, the direction appears reversed in the mirror. Fortunately, left-right and anterior-posterior movement are not reversed.

7. If hemorrhage occurs during synchialysis, inject a viscoelastic substance into the angle to prevent the blood from flowing into the vitreous cavity. After removal of the blood and the viscoelastic substance, the bleeding point can be visualized directly in the mirror and cauterized with a fine-tipped bipolar cautery or an underwater diathermy instrument if necessary.

This technique is helpful in eyes with pseudophakic corneal edema and an anterior chamber intraocular lens, because the surgeon can see the peripheral anterior synechiae that often entrap the implant haptics and can separate them under direct visualization. Similarly, after the placement of an anterior chamber intraocular lens, the surgeon can inspect the exact placement of lens haptics, minimizing iris tuck, engagement in an iridectomy, and possible angle damage.

References


Intermediate-Term Changes in Intraocular Pressure After Neodymium-YAG Laser Posterior Capsulotomy

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An increase in intraocular pressure is a well documented complication of a YAG laser pos-
terior capsulotomy. It is considered to be a self-limited process although increases have been noted to persist for several months after laser therapy.

We performed capsulotomies in 67 eyes of 65 patients with a Q-switched neodymium-YAG laser. Seven eyes were aphakic and 60 were pseudophakic (42 iris-fixed intraocular lenses and 18 posterior chamber lenses). We used an average of 55.5 ± 44 pulses (range, 5 to 248 pulses). The mean power setting was 1.5 ± 0.6 mJ and the mean total energy was 80.9 ± 69 mJ (range, 7.5 to 283.6 mJ). The intraocular pressure was measured before and two hours and two months after the capsulotomy by the same investigator using the same Goldmann applanation tonometer.

Two hours after treatment, 20 eyes had increases in intraocular pressure of more than 10 mm Hg or intraocular pressures above 30 mm Hg. These patients received 250 mg of acetazolamide and 0.25% timolol eyedrops twice daily for one week. Three eyes received corticosteroid eyedrops for one week and two eyes received indomethacin 0.5% eyedrops for two weeks. During the study medication unrelated to the YAG capsulotomy was continued in five eyes (two treated with corticosteroids and two with antiglaucomatous eyedrops).

Before intervention the mean (± S.D) intraocular pressure was 15.5 ± 3.8 mm Hg. Two hours after treatment it was 21.0 ± 9.0 mm Hg (range, 8 to 52 mm Hg). The mean increase was 5.5 ± 7.8 mm Hg (35% ± 50%). This difference was statistically significant (P < 0.001) by Student's t-test.

Patients were divided in two groups according to type of posterior capsule opacity. The first group consisted of 39 eyes with thickened capsules and Elschning's pearls; the second group consisted of 28 eyes with thin, wrinkled, fibrotic capsules. The mean increase in intraocular pressure was 7.5 ± 9.1 mm Hg in Group 1 and 2.8 ± 4.5 mm Hg in Group 2. Although there was considerable variation, the difference between the two groups was statistically significant (P < 0.05 by Student's t-test).

Two months after treatment, the mean intraocular pressure in the 67 eyes was 13.6 ± 3.6 mm Hg (range, 6 to 28 mm Hg). This represented a mean decrease of 1.9 ± 3.5 mm Hg from the mean pretreatment values. This decrease was also statistically significant (P < 0.001).

The obstruction of the trabecular meshwork by capsular debris is considered to be the main cause of the initial increase in intraocular pressure. Tonographic studies showed that a 50% impairment of outflow facility matched a 50% increase in intraocular pressure. The mechanical and prostaglandin-mediated breakdown of the blood-aqueous barrier, resulting in increased aqueous humor production, has also been mentioned (A. C. Terry, W. J. Stark, H. A. Quigley, D. Radulovic, and A. E. Maumenee, unpublished data). The decrease in intraocular pressure two months after the capsulotomy may have resulted from a rebound effect causing hyposecretion or from shockwave effects on the secreting epithelium. A similar unexplained decrease has been described after panretinal photoagulation.

We found that eyes with thickened posterior capsules and Elschning's pearls are more likely to have a significant increase in intraocular pressure after YAG laser capsulotomy than are eyes with thin fibrotic capsules. A new finding was a statistically significant decrease in intraocular pressure two months after YAG laser posterior capsulotomy compared to the pretreatment value.

References


Combination Lens Loop-Spatula for Nucleus Delivery During Planned Extracapsular Cataract Extraction

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