Central corneal thickness and applanation tonometry

The excellent work by Salvi et al.1 addresses the important issue of central corneal thickness (CCT) changes after phacoemulsification. They confirm that CCT increases in the immediate postoperative period.

An earlier study by Kohlhass et al.2 concludes that a 1 mm Hg correction should be made in the measured intraocular pressure (IOP) for every 25 μm deviation from a CCT of 550 μm. Based on this formula, Salvi et al. suggest that the IOP is overestimated by approximately 3 mm Hg in the immediate postoperative period and by at least 1 mm Hg on the first day after phacoemulsification. Kohlhass et al. looked at corneas with different physiological thicknesses, while Salvi et al. studied eyes with corneal edema.

Hamilton et al.3 report that a small increase in corneal hydration resulted in an overestimation of IOP by Goldmann applanation tonometry in human eyes, whereas Kaufman4 observed that Goldmann applanation tonometry usually underestimates the IOP in eyes with moderate corneal epithelial edema. Simon et al.5 demonstrate an inverse relationship between corneal hydration and IOP measured with applanation tonometry. Whitacre and Stein6 conclude that corneal epithelial and probably stromal edema result in a substantial underestimation of the IOP in human eyes. The relationship between CCT increased by edema and applanation-measured IOP is clearly different from the relationship between physiological CCT and applanation-measured IOP. In our opinion, Kohlhass et al.’s formula should not be directly applied to corneas that are thicker because of edema.

Yuqiang Huang, MBBS
Clement C.Y. Tham, FRCS, FCOphth
Mingzhi Zhang, MD
Hong Kong, China

Prevention of retrobulbar hemorrhage after sub-Tenon anesthesia

In their recent article, 1 Subbiah et al. noted that a rigid sub-Tenon cannula caused complications such as a retrobulbar hemorrhage, albeit rarely. The authors concluded that a “soft cannula” could be an ideal alternative for sub-Tenon injection in high-risk patients.

We reported the same thing in our Sandwell technique,2 in which the soft plastic sheath of a Venflon was used to deliver the local anesthetic agent in the sub-Tenon space. This prevents injury to blood vessels in a highly vascular region during an essentially blind procedure. It is probably because our report was published in April 2007 that Subbiah et al. overlooked this very effective technique that addresses the point raised in the article.

In our practice, we have found that the ultrashort version3 is not as effective as the Venflon sheath, as it often does not deliver the anesthetic agent to the actual retrobulbar region. Since our report, we have used this technique in all cases and have had no complications.

Yajati K. Ghosh, FRCEd
Amanda Van Vuuren, FRCA
Shashi P. Aggarwal, FRCOphth
Dinesh Dubash, FRCA
Birmingham, United Kingdom

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Self-repositioned IOL in a vitrectomized eye

I would like to address some important issues raised by Mansour’s report of a self-repositioned intraocular lens (IOL) in a vitrectomized eye.1

First, it is not clear when the radial tear at the 9:30 o’clock position occurred. I question whether it occurred during placement of a foldable single-piece plate-haptic acrylic IOL such as the Acri.Smart 48 S (Acri.Tech). The tear might have occurred during capsulorhexis or phacoemulsification or there might have been a preexisting posterior capsule defect that occurred during the previous pars plana vitrectomy. Consulting the retinal surgeon and/or carefully studying the surgical notes might reveal posterior capsule injuries during vitreoretinal surgery. If there are

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