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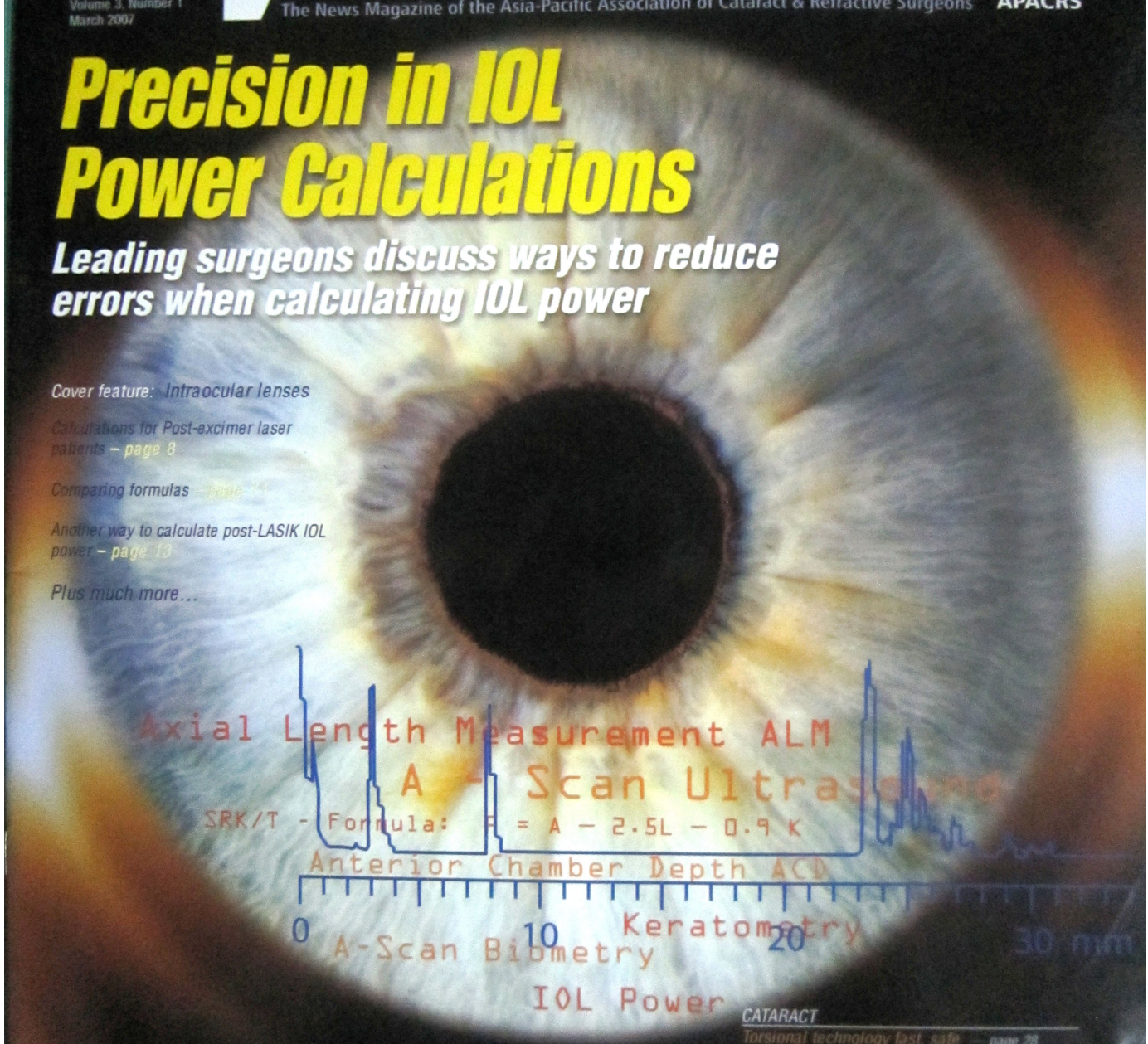
Retinal Pathology – page 39

Precision in IOL Power Calculations

Leading surgeons discuss ways to reduce errors when calculating IOL power



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For Circulation to Ophthalmologists in India

Asia-Pacific Association of Cataract and Refractive Surgeons (APACRS)

Letter from Regional Managing Editor

India Circulation

Dear friends,

It gives me immense pleasure to continue to pen down the editorial as the Regional Managing Editor of the Indian Edition of EyeWorld Asia-Pacific.

The cover feature for this issue is intraocular lens power calculation after keratorefractive surgery. Although cataract extraction seems to be feasible without major technical obstacles, the surgical technique has changed completely, and patients are no longer satisfied with good spectacle-corrected vision but anticipate complete visual rehabilitation after cataract surgery, without correction. To fulfill this desire, toric or accommodative intraocular lenses have increased in popularity, and the intraocular lens power calculation after keratorefractive surgery has been improved. In this issue, one of the major areas of focus is the problem of intraocular lens power calculation in previous keratorefractive surgery patients. The new enhanced techniques may improve the validity of lens power calculation due to reduction of the prediction error.

To correct myopia with radial keratotomy (RK), deep, radially orientated knife incisions are applied in the midperiphery of the cornea to induce midperipheral bulging of the cornea. Indirectly, the central cornea becomes flatter. Since no tissue is removed, it is assumed that anterior and posterior surfaces of the cornea react in an analogous way. Whereas after PRK/LASIK the ratio between anterior and posterior curvature may increase markedly and the central corneal thickness decrease, this ratio and corneal thickness remains nearly unchanged after uncomplicated RK. After photorefractive surgery with myopia, the keratometry as well as the corneal topography analysis is known to overestimate corneal refractive power. As the measured corneal power is used for intraocular lens power calculation, the lens power will be underestimated, effecting hyperopia after cataract surgery.

The epidemic of patients requiring cataract surgery who have had prior refractive surgery is slowly growing in Southeast Asian countries as well. The several approaches discussed in the current issue would be of great benefit to all cataract and keratorefractive surgeons. However, I sincerely believe that to reduce this problem in the future all refractive surgery patients should be given pre- and postoperative refraction and keratometry data and the importance of the data should be adequately emphasized to them.

As always I would conclude this with the agelessly elegant and universally acclaimed quote: Knowledge knows the facts; wisdom knows what to do with the facts you know.

With Warmest Regards,

Dr S Natarajan
Regional Managing Editor
EyeWorld Asia-Pacific (For circulation in India)