SURGERY FOR HIGH MYOPIA - THE EXPANDING BUT STILL LIMITED ROLE OF REFRACTIVE LENSECTOMY

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The current status and limitations of refractive lensectomy for correction of high myopia were highlighted during one of the symposia at the ESCRS Winter Meeting in Barcelona. The need for careful consideration of the safety profile of lensectomy in eyes with axial lengths over about 26.0 mm was emphasised, with atrophic breaks and in patients with lattice degeneration but without posterior vitreal detachments. Posterior capsulotomies in eyes with axial lengths over 25.0 mm are currently preferable to refractive lensectomy in non-presbyopic high myopes. There was agreement that currently available accommodating IOLs would not provide adequate accommodation in these patients. Although the minimal anterior shift sometimes measured with these accommodating IOLs can occasionally provide adequate near vision when a very high powered IOL is inserted in an eye with small pupils, eyes with long axial lengths would not achieve near vision. The low powered IOLs required in myopes would provide almost no accommodation. Moreover, myopes usually have large pupils, which would not provide adequate pseudoaccommodation.

RETINAL DETACHMENT

Here is not yet consensus regarding optimal prophylaxis in myopic patients undergoing refractive surgery. According to Mr. Rosen, there should be further review of prophylaxis in asymptomatic patients with atrophic breaks and in patients with lattice degeneration but without posterior vitreal detachments. Posterior vitreal detachments and retinal detachments after YAG capsulotomies in eyes with axial lengths greater than 25.0 mm. The incidence of retinal detachment in unoperated eyes with myopia over 10 diopters is 0.68% annually (or 8% in 10 years) in the frequently cited study by Perkins. A meta-analysis by Richard Packard FRCS FRCOphth, of 1,800 myopes with axial lengths over 26 mm revealed less than a 2.0% rate of retinal detachment. Patrick Condon, FRCSI, FRCOphth also reported in Barcelona a 2.0% retinal detachment rate in his series of 95 refractive lensectomies in eyes with myopia over -0.0 D and with axial lengths between 25.7 mm and 33.4 mm. His 43 eyes with 7 to 14 years of follow-up, the total retinal detachment rate was 6.0% with a 33% posterior capsulotomy. Many of us now are noting retinal detachment rates below 0% in our patients. Older series with very high capsulotomy rates have revealed higher rates. We must remain cautious.

Efficacy

Endophthalmitis remains another important risk associated with refractive lensectomy. The incidence of endophthalmitis after cataract surgery is still at least 1 in 1000. Several recent studies have demonstrated an even greater incidence of endophthalmitis, particularly in eyes with clear corneal incisions. Recent studies have been clarifying the relationship between wound construction, wound closure and increased risk of infection. Richard Packard, FRCS FRCOphth highlighted the poorer scleral rigidity in higher myopes and the resulting increased risk of inadequate wound closure. It is hoped that the recent availability of fourth generation fluoroquinolones and their use both topically and intracamerally, combined with povidone-iodine antisepsis, may provide adequate anti-infective prophylaxis to decrease the risk of endophthalmitis.

Acmodation

Refractive precision has improved, even in patients with staphylomas, with the use of immersion ultrasound and optical interferometry. The large pupils often associated with myopes require more consideration of optimal capsulorhexis size and IOL design to minimise induced optical aberrations, such as spherical aberration and edge-related glare.