Highlights from this issue

doi:10.1136/bjophthalmol-2013-304693

Harminder S Dua, Arun D Singh, *Editors-in-Chief***INFLUENCE OF CATARACT SURGERY ON MEASUREMENTS OF SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY**

Bambo *et al* evaluated the effect of uncomplicated cataract phacoemulsification on the measurements of macular and retinal nerve fibre layer (RNFL) using two spectral domain (SD) optical coherence tomography (OCT) instruments-Cirrus OCT (Zeiss) and Spectralis OCT (Heidelberg)-in 60 eyes healthy subjects. The RNFL measurements differed before and after surgery, and most of these differences were statistically significant. Macular thickness measurements using the Spectralis OCT were not significantly different between the two visits, whereas the differences found with the Cirrus OCT were statistically significant. The authors conclude that presence of cataracts affects RNFL and macular measurements performed with SD-OCT.

MACULAR BUCKLING FOR MACULAR HOLE WITH ASSOCIATED FOVEOSCHISIS IN HIGHLY MYOPIC EYES

Burés-Jelstrup *et al* report anatomic and visual outcomes in 16 highly myopic eyes with macular hole (MH) with associated foveoschisis that underwent vitrectomy combined with macular buckling. OCT confirmed MH closure in all patients. Best-corrected visual acuity (VA) improved in 13 out of 16 eyes (81%), remained stable in 2 eyes (13%) and worsened in 1 eye (6%). The authors conclude that combined vitrectomy and macular buckling is a safe and effective approach to achieve primary closure of MH in eyes with posterior staphyloma and associated foveoschisis.

VA AND COGNITIVE FUNCTIONS

Elyashiv, Shabtai, and Belkin investigated a possible association between VA and dementia in 2716 subjects (aged between 53 and 102 years) with varying degrees of dementia. Better VA correlated with a lower dementia level as well as with a higher global cognitive score. This correlation remained significant after adjustment for age, years of education, gender, use of ophthalmic drugs and years of follow-up.

LASIK FLAPS CREATED WITH FEMTOSECOND LASERS AND MECHANICAL MICROKERATOME

Kymionis *et al* compared stromal bed smoothness in LASIK flaps created with two different femtosecond lasers (IntraLase FS150 and WaveLight FS200) and a mechanical microkeratome (MMK) (Carriazo-Pendular microkeratome). Twenty flaps were created in each group (total 60 freshly enucleated porcine eyes). Images were assessed with light microscopy and scanning electron microscopy. There was no significant difference between the two femtosecond lasers. However, in comparison to the MMK, the femtosecond laser systems had a superior performance.

DEFOCUS INCORPORATED SOFT CONTACT LENS SLOWS MYOPIA PROGRESSION

Lam *et al* carried out double-blind randomised controlled trial in 221 children aged 8–13 years, with myopia between -1.00 and -5.00 Dioptres (D) and astigmatism ≤ 1.00 D to determine if 'Defocus Incorporated Soft Contact' (DISC) lens wear slowed childhood myopia progression. DISC lenses incorporated concentric rings, which provided an addition of $+2.50$ D, alternating with the normal distance correction. Myopia progressed 25% more slowly for children in the DISC group compared with those in the control group (0.30 D/year vs 0.4 D/year). Likewise, there was less axial elongation in the DISC versus SVgroups (0.13 mm/year vs 0.18 mm/year). Treatment effect correlated positively with DISC lens wearing time.

SD OCT EVALUATION OF PROLIFERATIVE DIABETIC RETINOPATHY

Muqit and Stanga describe in vivo spatial and morphological vitreoretinal relationships associated with diabetic retinal neovascularisation using SD OCT (Topcon 3D OCT-1000) in 50 eyes. Retinal neovascularisation appeared as a hyper-reflective complex arising from inner retina with disruption through the internal limiting membrane attaching to the posterior hyaloid surface. Retinoschisis, vitreoretinal

adhesions, and intraretinal tractional elements were also observed. SD-OCT detected subclinical hyper-reflective neovascular complexes that were not visible on colour fundus imaging.

NON-VISUAL BENEFITS OF BLUE-LIGHT AND UV-BLOCKING INTRAOCULAR LENSES

Melanopsin-expressing photosensitive retinal ganglion cells form a blue-light sensitive non-visual system mediating diverse physiological effects including circadian entrainment and cognitive alertness. Reduced blue wavelength retinal illumination through cataract formation is thought to blunt these responses while cataract surgery and intraocular lens (IOL) implantation have been shown to have beneficial effects on sleep and cognition. Schmolli *et al* used the reaction time task and the Epworth Sleepiness Score before and after surgery in 80 patients who were prospectively randomised to receive either a UV- or blue-blocking IOL. Optical blurring at the postoperative test controlled for visual improvement. Non-operative age-matched controls were recruited for comparison. Phacoemulsification, particularly of the first eye, had a strong positive effect on cognition and daytime alertness, regardless of IOL type.

INTRACAMERAL BEVACIZUMAB AS AN ADJUNCT TO TRABECULECTOMY

Vandewalle *et al* investigated the efficacy and safety of a single intracameral bevacizumab injection to improve the outcome of trabeculectomy in a prospective, randomised, double-masked trial. One hundred and thirty-eight patients with medically uncontrolled open-angle glaucoma scheduled for a primary trabeculectomy were recruited and randomised to receive $50 \mu\text{L}$ of either bevacizumab (1.25 mg) or placebo (balanced salt solution) preoperatively. IOP at 1 year postoperatively was lower than baseline with no difference between treatment groups. However, the need for IOP-lowering interventions (needlings) was lower in bevacizumab group. Complication rates were low and comparable between groups.