Highlights from this issue

doi:10.1136/bjophthalmol-2011-300369

Harminder S Dua and Arun D Singh, *Editors-in-Chief*

Protein expression pattern in conjunctival melanoma

Westekemper *et al* analysed the expression of the antiapoptotic oncoprotein B cell leukaemia/lymphoma-2 protein (Bcl-2), the tumour- suppressor phosphatase and tensin homologue deleted on chromosome ten (PTEN), and the heat-shock-protein HSP-90 in conjunctival melanoma (70 samples) and conjunctival nevi (12 samples) by immunohistochemistry. Bcl-2 expression was higher in melanoma than in nevi. The loss of nuclear PTEN expression was more pronounced in the melanomas than in nevi. Recurrent tumours expressed almost twice as much HSP-90 compared to recurrence-free tumours. (***See page 853***)

Central macular thickness and gestational age

Åkerblom *et al* determined the retinal macular thickness in prematurely born children (65) and compared it with children born at term (55). The retinal macular thickness, the foveal minimum, and the total macular volume were determined using Stratus OCT 3. They observed that central macular thickness was significantly thicker in the prematurely born children than in those born at term. There was no correlation between macular thickness and visual acuity or refraction. Prematurely born children with or without previous ROP had significantly thicker central macula. Gestational age at birth was the only risk factor for a thick central macula. (***See page 799***)

Tear proteins and Meibomian gland disease

Tong *et al* evaluated association of tear proteins with severity of MGD in dry eye (24 patients). The severity of MGD was classified based on biomicroscopic signs. Tear protein ratios for a panel of proteins (α-enolase, α-1-acid glycoprotein 1, S100A8, S100A9, S100A4, S100A11, prolactin-inducible protein, lipocalin-1, lactoferrin and lysozyme) for each of 24 patients were calculated relative to pooled control from 18 healthy people, using mass spectrometry. They observed that the levels of S100A8 and S100A9 were correlated to MGD severity and also to symptoms of redness and transient blurring. These findings strongly suggest that MGD may contribute to dry eye disease via elevation of proinflammatory proteins. (***See page 848***)

High-resolution OCT of nerve fibre layer

Serbecic *et al* assessed high-resolution SD-OCT with eye- tracking feature for measurement of the RNFL thickness in a series of 31 healthy volunteers. Triplicate circumferential RNFL scans of six peripapillary sectors were obtained from both eyes under miotic (Mi) and mydriatic (My) pupil conditions using a high-speed (HS) and high-resolution (HR) scan-acquisition mode. They observed absence of significant differences in all groups, independent of the mode of image acquisition and examination day. The high level of agreement together with the possibility of utilising a true follow-up measurement confirms that SD-OCT is a promising technology for evaluating RNFL changes over time. (***See page 804***)

Visual field interpretation

Lin *et al* evaluated interobserver agreement and interpretation time for three clinically available formats of visual field presentation: serial Humphrey visual field, STATPAC2 and PROGRESSOR from the Advanced Glaucoma Intervention Study. Eight glaucoma specialists and eight comprehensive ophthalmologists determined whether each field series was stable or progressive. Interobserver agreement and agreement with Hodapp-Parrish-Anderson criteria were moderate to substantial for glaucoma specialists and fair to moderate for comprehensive ophthalmologists. Interpretation times was significantly decreased when STATPAC2 or PROGRESSOR was used rather than Humphrey visual field. (***See page 828***)

Analgesic effect of intracameral lidocaine

Tan *et al* determined the analgesic effect of supplemental intracameral lidocaine 1% during phacoemulsification under topical anaesthesia. In a double-masked randomised clinical trial of 506 patients undergoing phacoemulsification, 227 patients were randomised to receive a supplemental intracameral injection of either 0.5 cc of 1% lidocaine or BSS (229 patients). The median pain score was 0.0 for intracameral lidocaine group compared with 1.0 for BSS group. The proportion of patients who experienced pain was significantly lower in the intracameral lidocaine group compared with the BSS group (multivariate OR 0.68). Pain was more common in females, non-Chinese, and those who had previously undergone cataract surgery in the fellow eye. (***See page 837***)

Air-pulse corneal applanation characteristics of keratoconus

Mikielewicz *et al* tested ocular response analyser parameters to distinguish between normal and keratoconic eyes, to determine the severity of keratoconus (KC), and to evaluate changes after treatment with cross-linking (CXL) and intrastromal corneal ring implantation. 42 parameters of 119 subjects were analysed. The corneal resistance factor and the area under the second peak of the signal curve produced the best results in distinguishing between normal and KC eyes. The changes in the parameter values after CXL and intrastromal corneal ring treatments were smaller than expected. (***See page 793***)

Interlamellar cohesion after corneal crosslinking

Wollensak *et al* assessed the impact of collagen crosslinking on the interlamellar cohesive force in 72 post mortem porcine eyes divided into six different treatment groups: the untreated control group, the standard crosslinking group, the hypo-osmolar crosslinking group, the stromal swelling group, the formaldehyde group and the α-amylase group. Force-distance profiles of 9 × 4 mm strips (400 micron thickness) were recorded using a micro-computer-controlled biomaterial testing machine. They observed that the corneal crosslinking stabilised only inter- and intrafibrillar cohesion but not the interlamellar cohesion. (***See page 876***)