

# Highlights from this issue

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

## Punctal plugs in children

Mataftsi *et al* evaluated the safety and efficacy of punctal plugs in 25 children with dry eye syndrome. The most common symptoms were photophobia, soreness and blepharospasm. Concurrent systemic disease was present in 72% of patients. 69% of insertions were performed under general anaesthesia. A substantial improvement in ocular surface disease was noted in all cases: frequency of lubricant use was reduced in 32% and visual acuity improved in 60% of patients. Spontaneous extrusion was the most common complication (19%). (*see page 90*)

## RNFL and visual function loss in glaucoma

Wollstein *et al* determined the retinal nerve fibre layer (RNFL) thickness at which visual field (VF) damage becomes detectable with structural loss in a prospective cross-sectional study of 72 healthy and 40 glaucoma subjects. Comparison of global mean and sectoral RNFL thicknesses with VF threshold values showed a plateau of threshold values at high RNFL thicknesses and a sharp decrease at lower RNFL thicknesses. A 'broken stick' statistical model estimated the RNFL thickness threshold ('tipping point') for VF loss of 75.3  $\mu\text{m}$  (95% CI 68.9 to 81.8), reflecting a 17.3% RNFL thickness loss necessary for functional loss that is detectable using the current testing methods. (*see page 47*)

## Smooth pursuit in infants

Pieh investigated the development of smooth pursuit in infants and assessed the influence of different stimulus characteristics in 71 infants. Smooth pursuit eye movements (SPEM) were stimulated using targets of different sizes and velocities. Smooth pursuit maturation peaked between 2 and 6 months of age with smooth pursuit gain showing a steep rise for all stimulus velocities and target sizes within this age range. Further maturation is slow and still incomplete by the age of

18 months. Stimulus velocity and size have an important impact on the smooth pursuit quality in infants. (*see page 73*)

## RNFL and optic-disc size measurements by SD OCT

Savini *et al* evaluated the influence of axial length on measurements of the RNFL thickness and optic nerve head (ONH) parameters in healthy subjects using Cirrus HD-OCT in 15 short (<22.5 mm), 15 medium (22.51–25.5 mm) and 15 long (>25.51 mm) eyes. The RNFL thickness decreased with longer axial lengths in all quadrants. The optic-disc area and rim area also decreased with longer axial lengths. Correcting for axial length-induced ocular magnification by means of the Littmann formula resolved the relationship between axial length and both RNFL thickness and ONH area. (*see page 57*)

## Cost of posterior capsule tear at cataract surgery

Qataneh *et al* estimated the direct financial burden of a posterior capsule tear (PCT) during cataract surgery. A total of 100 patients with PCT were matched with 100 controls, each case with PCT matched with an uncomplicated cataract operation performed on the same list by the same grade of surgeon. For both groups, data on the cost of visits and procedures were provided by the Department of Health. The preoperative parameters of the two groups were similar. The cases with PCT required a median of three additional postoperative visits with an average cost of £475 for extra visits. (*see page 114*)

## Scottish retinal detachment study

Mitry *et al* characterised the predisposing pathology and clinical features in the fellow eyes of patients recruited as part of the Scottish Retinal Detachment Study. Lattice degeneration was present in 14.5% and full-thickness retinal breaks were

found in 8.4% of fellow eyes on presentation. Overall, 7.3% of cases had RRD in both eyes. Fellow-eye detachments were also more common in pseudophakic individuals and those with a higher myopic refractive error. (*see page 110*)

## Screening for amblyopia using the plusoptix photoscreener

Moghaddam evaluated the accuracy and applicability of Plusoptix photoscreener in screening pre-verbal children at risk of amblyopia in cross-sectional population-based study of 996 children (aged 6–36 months). The Plusoptix measurements were compared with cycloplegic retinoscopy. The average difference between retinoscopy and photorefractometry for spherical equivalence was  $-0.16 \pm 1.0$  D ( $p < 0.05$ ). The sensitivity, specificity, positive predictive value and false-negative rates for Plusoptix vision screener were 100%, 38.7%, 19% and 100%, respectively. The authors conclude that Plusoptix is a useful objective screening instrument, but has low specificity for detecting amblyopia risk factors in the paediatric population. (*see page 83*)

## Endothelial keratoplasty buttons obtained with femtosecond laser

Rousseau *et al* investigated settings to obtain optimal interfaces of endothelial buttons created with femtosecond lasers. Forty-two corneas were divided into five groups of various cutting patterns and a control group of 100  $\mu\text{m}$  laser in situ keratomileusis flap creation. In each group, different laser settings were tested to obtain the best interface quality while delivering minimal energy to the stroma. The quality of stromal interfaces was observed using a scanning electron microscope. Among all groups and settings tested, the double-layer pattern with femtosecond full lamellar cut parameters set for 9.0 mm diameter, 350  $\mu\text{m}$  depth, and 2.1  $\mu\text{J}$  energy created the smoothest interfaces with the best reproducibility. (*see page 122*)