

MRI of the Ex-PRESS drainage device

Seibold *et al* evaluated the magnetic properties of the Ex-PRESS stainless steel glaucoma drainage device during standard 1.5, 3.0, and 4.7 T MRI scanning protocols. They measured translational and rotational motion of the device induced by static magnetic fields. Displacement did not occur under 1.5 and 3.0 T conditions, although a significant amount of displacement occurred in the 4.7 T environment. Increasing amounts of angular deflection were demonstrated at all three field strengths. Significant temperature changes at any of the three MRI strengths were not observed. The authors conclude that further studies are needed to better understand clinical relevance of these findings. *See page 251*

The effect of myopia on RNFL measurement

Wang *et al* measured the effect of myopia on RNFL thickness measurement by using Cirrus HD OCT and scanning laser polarimetry (GDx ECC) in 149 eyes (149 patients) subdivided into three groups: high myopia, moderate myopia, and low myopia. Average RNFL thickness measured with Cirrus OCT correlated significantly with axial length and SE. No such correlation was detected with GDx ECC. The authors conclude that histological studies are warranted to further our understanding of the relationship between RNFL thickness and myopia. *See page 255*

Long-term perimetric fluctuation in glaucoma

Fogagnolo *et al* evaluated the perimetric fluctuation (LF) in patients with different stages of stable glaucoma (GSS2) over a 2-year period. In a retrospective study of four visual-field tests (Humphrey SITA-Standard program, central 24 or 30 degree) of 161 eyes (161 patients) LF was calculated as the mean of the standard deviations of point-to-point threshold sensitivities. They observed a progressive

increase of LF from stage 0 to stage 4, with reduction in stage 5. Visual fields with generalised defects had a lower LF than those with localised defects. The authors conclude that LF must be differentiated from true progression. *See page 189*

Povidone—iodine induces corneal cell death

Chou *et al* investigated the mechanism by which Povidone—iodine (PI) causes cell death. Primary human corneal fibroblasts (HCF) and a human corneal epithelial cell line (HCEC) were treated with 0.1–5% PI for 1 min. Cell morphology and growth were examined by phase-contrast microscopy and genomic DNA quantification. They observed that PI treatment inhibited HCF and HCEC cell growth without changing cellular morphology. Genomic DNA integrity from PI-treated groups was similar to that from alcohol-fixed groups. The authors conclude that when PI exposure is sufficient to cause cell death, it occurs through fixation rather than necrosis. Prolonged contact between PI and viable uncontaminated tissue should be avoided. *See page 277*

TNF alpha and hyalocytes

Tumour necrosis factor- α (TNF α) is an inflammatory cytokine that is upregulated in various vitreoretinal diseases including uveitis and diabetic retinopathy. Hyalocytes contribute to the pathogenesis of these diseases. Hata *et al* studied impact of TNF α on the functional properties of bovine hyalocytes. They observed that TNF α promoted proliferation, migration and gel contraction by hyalocytes. Steroid treatment appears to inhibit the activation of hyalocytes in the early stages of the diseases, but might have adverse effects in the late stage through membrane contraction. *See page 261*

Injectability of tamponade agents

High viscosity silicone oils are resistant to emulsification; however, high viscosity

makes the oils more difficult to inject. Williams *et al* evaluated viscosity and the length of time taken to inject 9 ml of Siluron 1000, Siluron 2000, Siluron 5000, SiliconMate, a 56/44 blend of Siluron 1000/ Siluron 5000 (Blend A) and a 90/10 blend of Siluron 1000/PDMS (Blend B). Siluron 1000 and SiliconMate had the shortest injection times as expected due to their lower shear viscosities. Siluron 2000 was easier to inject than Blend A. Similarly, Blend B was easier to inject than Siluron 5000. The authors conclude that silicone oil blends containing small percentages of a high molecular weight additive are easier to inject than single grade oils of the equivalent shear viscosity. *See page 273*

Classification systems of acute ocular burns

Gupta *et al* compared predictive outcome of acute ocular burns using two different prognostic classification systems (Dua and Roper Hall) in a prospective randomised clinical trial of 100 patients. Patients were randomised in two groups to receive conventional medical therapy alone or additional amniotic membrane. Baseline parameters and 1-year outcome variables (healing of epithelial defect, corneal clarity, corneal vascularisation, visual outcome and symblepharon) were recorded. Subgroup analysis was performed in patients with severe burns (Grades IV, V and VI by Dua Classification; classified into a single grade (IV) by Roper Hall classification system). They did not observe any significant difference in time taken for epithelial defects to heal, but there was a significant difference in extent of corneal vascularisation, corneal clarity, and final visual acuity between Grades IV, V and VI. The authors conclude that Dua classification has superior prognostic value than Roper Hall classification because grade IV ocular burns are further subclassified into three separate grades in Dua classification system. *See page 194*