

Phacoemulsification surgery in the UK: displacement of nuclear fragments into the vitreous

Displacement of nuclear fragment (DNFV) into the vitreous is a rare but a potentially serious complication of phacoemulsification. Mahmood, von Lany, Cole, *et al* report on 610 cases collected prospectively through the British Ophthalmological Surveillance Unit (BOSU) compared with randomly selected 521 cases of uncomplicated phacoemulsification. The estimated incidence of DNFV was 0.19–0.28%. Significant preoperative risk factors included posterior synechiae, incomplete pupil dilation, pseudoexfoliation and previous vitrectomy. Significant operative variables were surgical experience, use of topical and sub-Tenon's anaesthesia and requirement for vision blue. The management of DNFV required secondary procedure in 97% of cases. About three-quarters of the IOLs inserted at the initial surgery were subsequently removed or replaced. Affected eyes still had a worse visual acuity outcome compared with eyes undergoing uncomplicated cataract surgery. The risk factors identified in this study should help to guide case selection and modifications of the surgical technique. *See pages 488 and 493*

Effects of brinzolamide and dorzolamide on ocular haemodynamics

Clinical studies have shown that certain patients with primary open-angle glaucoma (OAG) have reduced ocular blood flow. Siesky *et al* assessed the effects of brinzolamide and dorzolamide on ocular haemodynamics and retinal oxygen saturation in 15 patients with OAG in a randomised, cross-over, double-blind study. Ocular blood flow was assessed using confocal scanning laser Doppler flowmetry and colour Doppler imaging. Retinal oxygenation levels were determined using a digital photographic fundus oximetry. Both brinzolamide and dorzolamide increased retinal blood flow, with greater increase observed with brinzolamide ($p = 0.024$). Both brinzolamide and dorzolamide also increased oxygen saturation in the retina. However, the

possible beneficial effects of increased ocular blood flow and retinal oxygenation on visual function in patients with OAG remains to be investigated. *See page 500*

Variations in retinal detachment management

Scleral buckling and vitrectomy are the most popular techniques for the treatment of non-complicated rhegmatogenous retinal detachment (RD). In an effort to compare preoperative patient characteristics and anatomical outcomes with these two techniques, de la Rúa *et al* conducted a prospective, multicentric, non-randomised comparative study of consecutive cases from five hospitals in Spain. Group 1 included cases operated from 1999 to 2001 ($n = 86$); group 2 included cases from 2004 to 2006 ($n = 53$). Surgeons were allowed to treat patients following their personal criteria. The reattachment rate was over 94% in both groups. Regardless of the characteristics of the RD, vitrectomy as a primary surgical procedure was performed more frequently in latter years (78% vs 30%) ($p < 0.001$) indicating increasing tendency to treat RD with primary vitrectomy, which is neither related to complexity of cases nor better anatomical results. *See page 523*

Genotype–phenotype correlation in age-related macular degeneration

Complement factor H (CFH) Y402H polymorphism is strongly associated with age-related macular degeneration (AMD). Droz *et al* investigated whether CFH Y402H is associated with early phenotypic features in 420 Swiss patients with AMD. An OR of 2.95 was confirmed for AMD in the presence of at least one risk C allele and OR of 9.05 for the CC homozygotes, corrected for age and sex. No difference was found between the AMD stages. Patients homozygous for the risk allele showed significant association with peripheral drusen ($p = 0.028$) and for central drusen location ($p = 0.049$). There was, however, no trend for size, total surface and nasal location of the drusen. It appears that additional genetic

factors influence drusen phenotype. *See page 513*

Intravitreal bevacizumab for retinal vein occlusion

Chronic macular oedema is responsible for severe visual impairment in retinal vein occlusions. Kriechbaum *et al* conducted a prospective, uncontrolled study of 29 eyes with macular oedema secondary to central retinal vein occlusion (CRVO) (8) or branch retinal vein occlusion (BRVO) (21). Three intravitreal injections of 1 mg (0.04 ml) bevacizumab (Avastin) were administered at 4-week intervals; further retreatment was based on OCT findings. Mean baseline central retinal thickness (CRT) was 558 μm and mean BCVA was 20/100. At 6 months CRT was 382 μm and BCVA was 20/50⁻² ($p < 0.01$). The authors conclude that intravitreal injections of bevacizumab appear to be a safe and effective therapy in the treatment of macular oedema secondary to retinal vein occlusion. *See page 518*

Mortality due vascular diseases in patients with age-related macular degeneration

Age-related macular degeneration (AMD) and vascular disease share similar risk factors. Tan *et al* prospectively assessed the relationship between AMD and risk of stroke- or cardiovascular-related death in study participants from Australia aged ≥ 49 years. Of 3654 baseline participants (1992–4), 2335 were re-examined after 5 years and 1952 after 10 years. Retinal photographs were graded for AMD using the Wisconsin System. Deaths and cause of death were confirmed by data linkage with the Australian National Death Index. Among persons aged < 75 years at baseline, early AMD predicted a doubling of cardiovascular mortality (RR 2.32) over the next decade, after controlling for traditional cardiovascular risk factors. Late AMD predicted five-fold higher cardiovascular mortality (RR 5.57) and 10-fold higher stroke mortality (RR 10.21) after adjusting for age and sex only. These observations have potential implications for intravitreal anti-VEGF therapy for AMD. *See page 509*



At a glance

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