

Highlights from this issue

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Global estimates of visual impairment

Pascolini and Mariotti conducted a systematic review of data on visual impairment. 285 million people were estimated to be visually impaired, of whom 39 million are blind. People 50 years and older represented 65% and 82% of visually impaired and blind, respectively. The major causes of visual impairment were uncorrected refractive errors (43%) and cataract (33%). The major cause of blindness was cataract (51%). Visual impairment is a major global health issue; the preventable causes representing 80% of the total burden (*see page 614*).

Corneal biomechanical properties and tonometry

Yu *et al* investigated the correlation between corneal biomechanical properties, applanation tonometry and direct intracameral tonometry in 58 eyes scheduled for phacoemulsification. Corneal hysteresis and corneal resistance factor were measured with the ocular response analyser. Applanation IOP (IOPappla) was measured in the supine position and intracameral IOP (IOPintra) was measured with a pressure transducer connected to a cannula inserted into the anterior chamber. IOPintra had no association with the corneal properties. IOPappla correlated more with the corneal biomechanical properties assessed by the ocular response analyser than with CCT alone. These observations suggest that any attempts to adjust the IOPappla readings based on CCT alone need further investigation (*see page 640*).

iStent and phacoemulsification

Arriola-Villalobos *et al* conducted a prospective interventional study on 19 eyes with coexistent uncontrolled open-angle glaucoma and cataract wherein, along with phacoemulsification and IOL insertion, an ab-interno gonioscopically guided implantation of Glaukos iStent was performed. With a minimum follow-up of 3 years, mean IOP was reduced from 19.4 mm Hg to 16.3 mm Hg (16.3% decrease). The mean number of pressure-lowering medi-

cations fell from 1.3 to 0.85 with 42% of patients using no antiglaucoma medications. Complications of surgery were not observed. Combined cataract surgery and Glaukos iStent implantation seems to be an effective and safe procedure to treat coexistent open-angle glaucoma and cataract (*see page 645*).

In vivo analysis of conjunctiva in canaloplasty

Mastropasqua *et al* assessed bulbar conjunctiva in vivo confocal microscopy in 30 patients undergoing canaloplasty. The conjunctiva was examined 1 week before (baseline) and 12 weeks after surgery. The mean density (MMD, cysts/mm²) and mean area (MMA, mm²) of conjunctival microcysts and IOP were measured. Canaloplasty was successful in 23 patients (group 1) but unsuccessful in seven (group 2). In group 1, MMD and MMA were 37.9 and 11 997.8 respectively, a fourfold increase compared to baseline; no significant differences were found in group 2. Conjunctival bleb was not documented in any case. These findings indicated enhanced aqueous humour filtration across the sclera and conjunctiva after canaloplasty (*see page 634*).

Cost-effectiveness of ranibizumab for diabetic macular oedema

Mitchell *et al* evaluated the cost-effectiveness of ranibizumab (monotherapy or combined with laser therapy) compared with laser monotherapy in the treatment of diabetic macular oedema causing visual impairment. A Markov model simulated long-term outcomes and costs of treating diabetic macular oedema in one eye (BCVA #75 letters) based on data from the RESTORE Phase III trial. Outcomes measured in quality-adjusted life-years (QALYs) were simulated for a 15-year time horizon. Ranibizumab monotherapy resulted in a 0.17 QALY gain at an incremental cost of £4191 relative to laser monotherapy, yielding an incremental cost effectiveness ratio (ICER) of £24 028. Ranibizumab monotherapy appears to be

cost-effective relative to laser monotherapy, the current standard of care (*see page 688*).

Scottish retinal detachment study

Mitry *et al* analysed failure and predictive value of rhegmatogenous retinal detachment (RRD) classification based on 1130 participants in the Scottish Retinal Detachment study. Using a regression model, the influence of clinical factors on the failure risk was estimated and the sensitivity and specificity of the Royal College of Ophthalmologists (RCOphth) grading for RRD in predicting operative failure were assessed. The overall primary success rate was 80.8%. The presence of preoperative proliferative vitreoretinopathy of any degree and each additional clock hour of detachment increased the risk of failure by an OR of 2.4 and 1.13 respectively. The type of surgical repair did not influence overall success rates. The value of current classification systems in predicting failure was most useful in complex RRDs (*see page 730*).

Combined low-dose TTT and ranibizumab for neovascular AMD

Söderberg *et al* compared the effect of combined low-dose transpupillary thermotherapy (TTT) and intravitreal ranibizumab with sham TTT and intravitreal ranibizumab in patients with neovascular AMD in a double-masked, randomised, clinical trial of 100 patients. After an initial loading phase of ranibizumab patients were randomly assigned (1:1) to receive quarterly low-dose TTT or sham TTT for 24 months. Retreatment with ranibizumab was allowed in both treatment groups using a variable dosing regimen. The mean number of ranibizumab injections was 8.0 in the sham TTT group versus 6.3 in the TTT group ($p < 0.05$). There was no statistically significant difference in BCVA or lesion area between the treatment groups. The results suggest that low-dose TTT can serve as an adjuvant in combination with intravitreal ranibizumab for neovascular AMD (*see page 714*).