Highlights from this issue

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Can we eradicate trachoma? A survey of stakeholders (*see page 1059*)

We surveyed trachoma stakeholders to assess beliefs related to feasibility of trachoma eradication as an end goal for trachoma programs. Most experts reported that eradication was possible, although major technical and financial barriers were identified.

Long-term anatomical and functional outcomes after autokeratoplasty (*see page 1063*)

The survival analyses of a historical cohort of 31 autokeratoplasties with a mean follow-up of 11.3 years confirmed this technique as a good option for patients within the inclusion criteria.

Keratoconus staging by decades: a baseline ABCD classification of 1000 patients in the Homburg Keratoconus Center (*see page 1069*)

This study summarises the keratoconus stage distribution of 1,917 corneas based on Belin's ABCD grading system and focuses on the changes of the 4 parameters included in the ABCD grading system within different age groups.

Survival of the fittest: phacoemulsification outcomes in four corneal transplants by Dr Ramon Castroviejo (*see page 1076*)

With appropriate measures to reduce endothelial cell loss and graft damage, phacoemulsification can be performed successfully in patients with extremely mature corneal grafts, resulting in sustained improvement in vision without changes in graft transparency.

Cologne rebubbling study: a reappraisal of 624 rebubblings after Descemet membrane endothelial keratoplasty (*see page 1082*)

Patients who require injection of a second bubble after DMEK show characteristic graft detachments post-surgery. Special attention should be paid to patients after DMEK who have already had repeat bubble injection in the previously operated eye.

Visual outcomes after cataract surgery among the elderly residents in the 'homes for the aged' in South India: the Hyderabad Ocular Morbidity in Elderly Study (*see page 1087*)

Posterior capsular opacification and uncorrected refractive are the major causes of vision impairment post-cataract surgery in elderly residents in homes for the aged in Hyderabad, India. Both these causes can be addressed using simple interventions and often result in an immediate benefit in this elderly population.

12-month randomised trial of 360° and 180° Schlemm's canal incisions in suture trabeculotomy ab interno for open-angle glaucoma (*see page 1094*)

The different extents and locations of Schlemm's canal incisions during suture trabeculotomy ab interno for open-angle glaucoma do not affect both the IOP reduction and the need for medications throughout 12 months of follow-up.

Automated detection of early-stage ROP using a deep convolutional neural network (*see page 1099*)

The deep convolutional neural network can be used for differentiating stage of retinopathy of prematurity effectively and help with detecting the disease in the early stage

Bacterial infections as novel risk factors of severe diabetic retinopathy in individuals with type 1 diabetes (*see page 1104*)

In the present prospective follow-up study, by combining clinical measurements and comprehensive national register data, we demonstrate that frequent antibiotic purchases and high serum endotoxin activity are novel risk factors of severe diabetic retinopathy.

Longitudinal panretinal microaneurysm dynamics on ultra-widefield fluorescein angiography in eyes treated with intravitreal aflibercept for proliferative diabetic retinopathy in the Recovery study (*see page 1111*)

Panretinal microaneurysm counts on ultra-widefield fluorescein angiography in proliferative diabetic retinopathy demonstrate significant decreases with anti-VEGF therapy at 1-year and may serve as an imaging marker for evaluating disease activity and treatment response.

Rapid assessment of avoidable blindness-based healthcare costs of diabetic retinopathy in Hungary and its projection for the year 2045 (*see page 1116*)

The total DR-associated healthcare cost was US $143.6 million in 2016 and will increase to US $166.8 million by 2045. In Hungary the two major cost drivers were anti-VEGF injections and vitrectomy procedures.

Retinal ultra-wide-field color imaging versus dilated fundus examination to screen for sickle cell retinopathy (*see page 1121*)

Ultra-wide field imaging detected higher number of cases of sickle cell retinopathy and detected cases at an earlier stage than dilated fundus examination. It detected twice as many capillary occlusions as dilated fundus examination.

Association between cardiorespiratory fitness and handgrip strength with age-related macular degeneration: a population-based study (*see page 1127*)

Our study findings suggest that physical fitness may not be a potential modifiable risk factor for age-related macular degeneration since we found no association between objective measures of physical fitness and age-related macular degeneration.

Detection of features associated with neovascular age-related macular degeneration in ethnically distinct data sets by an optical coherence tomography: trained deep learning algorithm (*see page 1133*)

Deep learning shows high performance for the differentiation of neovascular age-related macular degeneration images from normal OCT images in ethnically distinct patient groups. The model correctly focused on the macula and clinically relevant features.

Prevalence and predictors of myopic macular degeneration among Asian adults: pooled analysis from the Asian Eye Epidemiology Consortium (AEEC) (*see page 1140*)

In this Asian consortium, refractive error had the highest predictive ability of MMD risk, among other single factors including older age, female, longer axial length, and lower educational level that were associated with MMD.

3-D assessment of gaze-induced eye shape deformations and downgaze-induced vitreous chamber volume increase in highly myopic eyes with staphyloma (*see page 1149*)

Magnetic resonance imaging and a novel processing pipeline were used to

demonstrate global eye shape change with shifts in gaze in highly myopic patients and significant increase in vitreous chamber axial volume in downgaze.

Radiomics-based assessment of ultra-widefield leakage patterns and vessel network architecture in the PERMEATE study: insights into treatment durability (*see page 1155*)

This analysis provides a proof-of-concept radiomics assessment of fluorescein angiography-derived imaging biomarkers quantifying spatial arrangement of leakage and vasculature disorder at baseline, which in a machine learning framework can identify eyes that may tolerate extended treatment intervals in retinal vascular disease.

Small choroidal melanoma: outcomes following apical height dose brachytherapy (*see page 1161*)

Small choroidal melanoma treated with Iodine-125 brachytherapy is associated with excellent visual, local tumour control, and systemic outcomes.

Characterisation of thickness changes in the peripapillary retinal nerve fibre layer in patients with Leber's hereditary optic neuropathy (*see page 1166*)

Patients with Leber's hereditary optic neuropathy had thinning of the peripapillary retinal nerve fibre layer, first in the temporal quadrant, followed by the inferior and superior quadrants, and finally, in the nasal quadrant.

Antimicrobial peptides in corneal tissue of fungal keratitis patients (*see page 1172*)

HBD-1 and −2 were consistently expressed in fungal keratitis samples. While HBD-3,−9, S100A7, and LL-37 showed variable expression pattern. The results indicate the possible therapeutic potential of recombinant or linear AMPs against fungal pathogens.

Association of multiple gene variants with myopia severities and endophenotypes in children (*see page 1178*)

In this genetic association study, the authors revealed multiple SNPs in *ZC3H11B*, *BICC1*, *KCNQ5*, *SNTB1* and *GJD2* to be associated with myopia severities and/or endophenotypes in Chinese children aged 5 to 10 years.