



Highlights from this issue

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Keith Barton, James Chodosh , Jost B Jonas , *Editors in chief***Altered ellipsoid zone reflectivity and deep capillary plexus rarefaction correlate with progression in best disease (see page 461)**

Patients in the vitelliform stage of Best disease show significant ellipsoid zone and vascular alterations at deep capillary plexus. The severity of this neurovascular damage significantly correlates with the visual function and may serve as biomarker of more rapid disease progression.

The role of Müller cells in tractional macular disorders: an optical coherence tomography study and physical model of mechanical force transmission (see page 466)

Parafoveal Müller cells guarantee structural stability. Mechanical forces may result in parafoveal Müller cells taking on a vertical orientation. In this configuration, the tension is higher and the cell may transmit significant stress to photoreceptors, potentially affecting vision.

Foveal avascular zone morphology and parafoveal capillary perfusion in sickle cell retinopathy (see page 473)

The application of normative-based parafoveal capillary density deviation mapping in patients with Sickle Cell Retinopathy (SCR) shows promise for immediate qualitative and quantitative assessments of SCR, which may prove useful for clinical management.

Characterisation of microvascular abnormalities using OCT angiography in patients with biallelic variants in USH2A and MYO7A (see page 480)

OCT angiography detected decreased capillary density in retinal plexuses of USH2A and MYO7A patients. Choriocapillaris defects were detected in MYO7A but not USH2A. Decreased vessel density was associated with abnormal macular sensitivity and ellipsoid zone loss.

The estimated healthcare cost of diabetic retinopathy in Indonesia and its projection for 2025 (see page 487)

There is substantial economic burden, nearly 2% of national budget, due to diabetic retinopathy in Indonesia in 2017 which is projected to increase significantly in 2025. Innovative public health intervention is needed to reduce this burden.

Anatomical and functional outcomes following switching from aflibercept to ranibizumab in neovascular age-related macular degeneration in Europe: safari study (see page 493)

This prospective study demonstrated that in neovascular age-related macular degeneration, switching to ranibizumab following a suboptimal response to aflibercept significantly improved central subfield retinal thickness, and stabilised or improved visual acuity in ~60% of patients.

Repeatability of automated leakage quantification and microaneurysm identification utilising an analysis platform for ultra-widefield fluorescein angiography (see page 500)

This study evaluates the consistency and repeatability of a previously described automated segmentation algorithm for ultra-widefield FA images from different timepoints within a single study. The automated algorithm demonstrated strong intra-study correlation between two timepoints, quantifying retinal vascular features, microaneurysm count, and leakage metrics.

Identifying the factors for improving quality of oral fluorescein angiography (see page 504)

This study aims to understand the factors associated with improved quality of imaging with oral fluorescein angiography (FA), a technique used for patients with problematic venous access. This study identified that fasting prior to oral FA improved image quality and the ability to identify diagnostic features in the retina of patients.

Indocyanine green angiography for identifying telangiectatic capillaries in diabetic macular oedema (see page 509)

In this paper we describe the indocyanine green angiography characteristics of some usually overlooked large microvascular abnormalities, called telangiectatic capillaries herein, that could be present in patients with diabetic macular oedema.

Simulating vascular leakage on optical coherence tomography angiography using an overlay technique with corresponding thickness maps (see page 514)

A novel technique to simulate leakage using optical coherence tomography angiography (OCTA). We determined the sensitivity (26.1%) and positive predictive

value (68.4%) of detecting leaking microvasculature by OCTA using fluorescein angiography as the comparative norm.

Hypotony and the argus II retinal prosthesis: causes, prevention, and management (see page 518)

Severe hypotony is a serious adverse event associated with the Argus II Implant and can arise from intraoperative damage to the ciliary body, poor sclerotomy construction and closure, and unresolved wound healing.

A prospective trial of adjuvant therapy for high-risk uveal melanoma: assessing five-year survival outcomes (see page 524)

In this adjuvant study of patients with cytogenetic high-risk uveal melanoma treated with dacarbazine and interferon-alpha-2b, there was no improvement in metastasis free or overall survival with treatment.

Measuring dynamic levels of self-perceived anxiety and concern during simulated mobility tasks in people with non-neovascular age-related macular degeneration (AMD) (see page 529)

Intermediate and advanced dry age-related macular degeneration was found to be associated with increased mobility anxiety, particularly with stairs and low light. These results are useful for education and patient management. Test developed has potential as outcome measure for clinical trials.

Practice patterns to decrease myopia progression differ among pediatric ophthalmologists around the world (see page 535)

This study evaluated the different practice patterns utilised by 794 paediatric ophthalmologists around the globe to decrease myopia progression revealing significant differences in choice and efficacy of treatments offered in various geographical regions.

Visual function is reduced in young adults formerly born prematurely: a population-based study (see page 541)

Visual function, assessed as visual acuity, visual fields and contrast sensitivity, was reduced in young adults born preterm and previously included in a population-based study on the incidence of retinopathy of prematurity, as compared with controls.

Congenital monocular elevation deficiency associated with a novel *Tubb3* gene variant (see page 547)

In this study we report the genetic basis of congenital monocular elevation deficiency associated with a novel *TUBB3* variant. Therefore, in select cases it should be considered a limited form of congenital fibrosis of extraocular muscles.

Treatment strategies for Graves' ophthalmopathy: a network meta-analysis (see page 551)

We compared various treatments for active and moderate to severe Graves' ophthalmopathy in a network meta-analysis; both efficacy and tolerability were examined. A robust recommendation of which treatment is best cannot be made, because most evidence was rated as low or very low quality according to the GRADE framework.

Long term outcome of low cost glaucoma drainage device (Aurolab aqueous drainage implant) compared to Ahmed glaucoma valve (see page 557)

The AADI group had a higher probability of success (77% vs 50.4%), lower IOP, lesser AGM requirement and surgical

interventions for IOP control at 3 years. AADI is low cost alternative to AGV implant in managing refractory glaucoma.

The relationship between novel intraocular pressure measurement from Corvis ST and central corneal thickness and corneal hysteresis (see page 563)

Corvis ST measured bIOP is independent of central corneal thickness, but dependent on corneal hysteresis.

Validating the efficacy of the binomial pointwise linear regression method to detect glaucoma progression with multi-central database (see page 569)

The binomial pointwise linear regression detected glaucomatous visual field progression significantly earlier compared with Mean Deviation trend analysis and the permutation test analysis applied to pointwise linear regression.

Acanthamoeba keratitis therapy: time to cure and visual outcome analysis for different anti-amoebic therapies in 227 cases (see page 575)

Treatment outcomes were evaluated for 227 *Acanthamoeba* keratitis patients.

PHMB 0.02% monotherapy for the initial treatment of AK is as effective as biguanide + diamidine combination therapy. The outcome data are the most detailed available.

Five-year changes in anterior segment parameters in an older population in urban southern China: the Liwan Eye Study (see page 582)

Anterior chamber angle width decreased and the amount of light-to-dark changes declined during 5 year follow-up. Subjects with greater height, wider angle width and thicker iris at baseline have greater angle narrowing at follow-up.

Estimated number of ophthalmologists worldwide (international Council of ophthalmology update): will we meet the needs? (see page 588)

Although the estimated global ophthalmologist workforce appears to be growing annually by 2%–3%, with 232 866 ophthalmologists reported in 2015, their appropriate distribution is needed to ensure that eye care needs are universally met.