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Fully automated grading system for the evaluation of punctate epithelial erosions using deep neural networks (see page 453)

A fully automated grading system was developed for evaluating punctate epithelial erosions to serve as a reference in the clinic.

Ocular surface sphingolipids associate with the refractory nature of vernal keratoconjunctivitis: newer insights in VKC pathogenesis (see page 461)

Altered sphingolipid metabolism in conjunctival epithelium is reflected in the tear levels of characteristic sphingolipids in VKC. Lowered ceramide and sphingosine in refractory cases provides new insight into the disease mechanism and therapeutic intervention.

Cystoid macular oedema after Descemet membrane endothelial keratoplasty (see page 470)

Preoperative epiretinal membrane, pseudophakic bullous keratopathy and hyphema are risk factors for development of cystoid macular oedema development following Descemet membrane endothelial keratoplasty.

Population-based study on the prevalence, clinical characteristics and vision-related quality of life in patients with corneal opacity resulting from infectious keratitis: results from the Corneal Opacity Rural Epidemiological study (see page 476)

Prevalence of Infectious Keratitis, a common cause of monocular blindness globally, was 0.54% with the elderly and illiterate population at higher risk. Vision-related quality of life was significantly impaired despite unilateral involvement in most cases

Ray tracing intraocular lens calculation performance improved by AI-powered postoperative lens position prediction (see page 483)

A framework was developed to incorporate machine learning-powered postoperative intraocular lens position prediction into ray tracing. The new framework improved the refraction prediction accuracy of ray tracing by a clinically small but statistically significant amount.

Surgeon effects on cataract refractive outcomes are minimal compared with patient co-morbidity and gender: an analysis of 490 987 cases (see page 488)

Gender as well as previously unreported patient factors have been found to have a significant impact on prediction error following cataract surgery. Surgeon-associated effects were small in comparison.

Presumed tuberculosis-related scleritis (see page 495)

Presumed tuberculous scleritis presents as recurrent scleritis of unknown origin and positive QuantiFERON, usually after prior uveitis and/or concomitantly with uveitis or peripheral keratitis. It is often triggered by ocular surgery. Antituberculous therapy is effective.

Usefulness of the quantiferon test for the diagnosis of tubercular uveitis and the predictions of response to antituberculosis treatment (see page 500)

The usefulness of the QuantiFERON test was studied in the diagnosis of tubercular uveitis and the response to antituberculosis treatment in a large cohort of patients with uveitis.

Risk factors for microcystic macular edema in glaucoma (see page 505)

We identified and analysed clinical characteristics and risk factors associated with microcystic macular oedema (MME) in patients with primary open-angle glaucoma (POAG).

Generalisability and performance of an OCT-based deep learning classifier for community-based and hospital-based detection of gonioscopic angle closure (see page 511)

An OCT-based deep learning classifier demonstrated consistent and robust performance, approximating to inter-examiner agreement between trained ophthalmologists, in detecting gonioscopic angle closure across a range of patient populations and care settings.

Safety and performance of a suprachoroidal sensor for telemetric measurement of intraocular pressure in the EYEMATE-SC trial (see page 518)

This prospective, multicenter study reports the 6 month results on safety and performance of a new telemetric suprachoroidal intraocular pressure sensor which was

implanted in open angle glaucoma patients undergoing simultaneous non-penetrating glaucoma surgery.

OCT-based biomarkers for predicting treatment response in eyes with centre-involved diabetic macular oedema treated with anti-VEGF injections: a real-life retina clinic-based study (see page 525)

Baseline SD-OCT biomarkers and their subsequent change predict VA and improvement in vision in eyes with DMO treated with anti-VEGF injections. We proposed a SD-OCT based system that can be readily used in real-life eye clinics to improve decision making in the management of DMO

Evaluation of diabetic retinopathy severity on ultrawide field colour images compared with ultrawide fluorescein angiograms (see page 534)

Grading diabetic retinopathy using ETDRS scale on UWF-FA results in identification of more severe disease as compared with colour imaging. This suggests the need for specifically tailored severity scales for UWF-FA to predict future progression.

Ocular and systemic determinants of perifoveal and macular vessel parameters in healthy African Americans (see page 540)

Age, gender, axial length, signal strength, and central subfield thickness influence perifoveal and macular microvascular perfusion measured by OCTA and should be considered when interpreting OCTA imaging.

Retinal age gap as a predictive biomarker for mortality risk (see page 547)

We developed a deep learning algorithm that could predict age from fundus images with high accuracy. Further, we found the retinal age gap (predicted retinal age minus chronological age) independently predicted the risk of mortality.

PRO score: predictive scoring system for visual outcomes after rhegmatogenous retinal detachment repair (see page 555)

This cohort study of 1178 patients compared significant preoperative variables associated with poor visual outcomes after primary rhegmatogenous retinal detachment repair. A scoring system was created to forecast risk of poor visual outcomes.

Long-term outcomes of administration of intravitreal triamcinolone acetonide after posterior vitreous detachment during pars plana vitrectomy for proliferative diabetic retinopathy (see page 560)

We report the long-term outcomes of severe proliferative diabetic retinopathy with intravitreal injection of triamcinolone acetonide after posterior vitreous detachment during vitrectomy, which improved visual outcomes and lowered the risk of early post-operative recurrent vitreous haemorrhage.

Impact of COVID-19 lockdown on surgical procedures for retinal detachment in France: a national database study (see page 565)

The COVID-19 outbreak and subsequent lock-down had a profound impact on patient care. This nationwide French study found a decrease in the number of retinal detachments managed by almost 50%, with no subsequent compensating activity.

Inner retinal degeneration associated with optic nerve head drusen in pseudoxanthoma elasticum (see page 570)

In patients with Pseudoxanthoma elasticum, optic nerve head drusen are common. They result in a significant thinning of the ganglion cell layer accompanied by visual field restrictions, in the absence of outer retinal atrophy.

Prevalence and prognostic value of MYD88 and CD79B mutations in ocular adnexal large B-cell lymphoma: a reclassification of ocular adnexal large B-cell lymphoma (see page 576)

Ocular adnexal large B-cell lymphoma consists primarily of diffuse large B-cell lymphoma and high-grade B-cell lymphoma with MYC and BCL2 and/or BCL6 rearrangements. MYD88 mutations and cMYC/BCL2 double-expressor phenotype appear to carry a poor prognosis.

PandAcuity in paediatrics: a novel clinical measure of visual function based on the panda illusion (see page 582)

Previously, we described the mechanism of the panda illusion based on pulse-width modulation and low pass filtering and its correlation to visual acuity. Here we present the applicability of the PandAcuity test for visual function screening in 152 children.

Impaired vision and physical activity in childhood and adolescence: findings from the Millennium cohort study (see page 588)

This contemporary birth cohort showed important differences in physical activity and broader engagement between children with normal vision and those with impaired vision, particularly in participation and self-confidence related to physical education and organised sports