Ophthalmology Bulletin April 2018

Articles

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A randomized trial of binocular dig rush game treatment for amblyopia in children Aged 7 to 12 years.
[The purpose of this multicenter randomized clinical trial, was to compare visual acuity (VA) improvement in children aged 7 to 12 years with amblyopia treated with a binocular iPad game plus continued spectacle correction vs. continued spectacle correction alone.]
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Ab interno trabecular bypass surgery with iStent for open-angle glaucoma.
Le JT. Cochrane Database of Systematic Reviews 2019;3:CD012743.
[Elevated intraocular pressure (IOP) is the only known modifiable risk factor for glaucoma. Minimally invasive glaucoma surgical (MIGS) techniques, such as ab interno trabecular bypass surgery with iStent (Glaukos Corporation, Laguna Hills, CA, USA), have been introduced as a new treatment modality for glaucoma. However, the effectiveness of MIGS on keeping people 'drop-free' (i.e. not having to use eye drops to control IOP) and other outcomes is uncertain.]

Acute macular neuroretinopathy: pathogenetic insights from optical coherence tomography angiography.
[The aim of the study was to describe the optical coherence tomography angiography (OCT-A) features of patients affected by acute macular neuroretinopathy (AMN).]
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Cataract surgery refractive outcomes: representative standards in a National Health Service setting.
[The purpose of this study was to report refractive outcomes from an National Health Service (NHS) cataract surgery service and assess if results meet suggested benchmark standard. Refractive outcomes following routine cataract surgery reported here are well within the targets recommended by the RCO and European guidelines, but suggest that higher cataract refractive outcome benchmark standards may not yet be a realistic expectation for all NHS units with current biometry practice.]
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Choriocapillaris and retinal vascular plexus density of diabetic eyes using split-spectrum amplitude
decorrelation spectral-domain optical coherence tomography angiography.
[plit-spectrum amplitude decorrelation angiography for spectral-domain optical coherence
tomography has enabled detailed, non-invasive assessment of vascular flow. This study evaluates
choriocapillaris and retinal capillary perfusion density (CPD) in diabetic eyes using optical coherence
tomography angiography (OCTA).]
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Comparative effectiveness and harms of intravitreal antivascular endothelial growth factor agents
for three retinal conditions: a systematic review and meta-analysis.
[The authors conducted a systematic review to compare the effects of aflibercept, bevacizumab and
ranibizumab on best-corrected visual acuity (BCVA) changes, quality of life and ocular or systemic
adverse events in patients with neovascular age-related macular degeneration (NVAMD), diabetic
macular oedema (DME) and central or branch retinal vein occlusion (RVO). ]
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Contrast sensitivity and visual acuity under low light conditions in macular telangiectasia type 2.
[Macular pigment optical density (MPOD) is centrally depleted early on in macular telangiectasia
type 2 (MacTel). Contrast sensitivity (CS) might be related to MPOD, and thus impaired in early
MacTel. The effect of low luminance was assessed on both CS and best corrected visual acuity
(BCVA).]
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Correlation between aqueous flare and residual visual field area in retinitis pigmentosa.
[The purpose of this study was to investigate the relationship between aqueous flare, visual function
and macular structures in retinitis pigmentosa (RP).]
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Cyclodestructive procedures for refractory glaucoma.
Chen MF. Cochrane Database of Systematic Reviews 2019;3:CD012223.
[Options for CPC are wide-ranging: they can be performed using a neodymium:yttrium-aluminum-
garnet (Nd:YAG) or diode laser and laser energy can be delivered by either the contact or non-
contact method. Another cyclodestructive procedure is endoscopic cyclophotocoagulation, which
the ophthalmologist can use selectively to target the ciliary epithelium and ablate ciliary body tissue.
There is debate regarding which cyclodestructive method is best and how they compare to other
glaucoma surgeries.]

Detailed genetic characteristics of an international large cohort of patients with Stargardt disease:
ProgStar study report 8.
[The aim of this study was to describe the genetic characteristics of the cohort enrolled in the
international multicentre progression of Stargardt disease 1 (STGD1) studies (ProgStar) and to
determine geographic differences based on the allele frequency.

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**Differing structural and functional patterns of optic nerve damage in multiple sclerosis and neuromyelitis optica spectrum disorder.**
[The purpose of this cross-sectional study was to assess differential patterns of axonal loss and
demyelination in the optic nerve in multiple sclerosis (MS) and neuromyelitis optica spectrum
disorders (NMOSD).]

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**Femtosecond laser-assisted cataract surgery for the white cataract.**
[The purpose of this study was to report the capsulotomy and lens fragmentation outcomes of white
cataracts managed with the femtosecond laser (FL).]

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**In vivo confocal microscopy indicates an inverse relationship between the sub-basal corneal plexus and the conjunctivalisation in patients with limbal stem cell deficiency.**
[Limbal stem cell deficiency (LSCD) is characterised by a marked decrease in limbal stem cells. It is
classified primarily using subjective slit-lamp observations. In vivo confocal microscopy (IVCM) can
non-invasively provide objective information on the condition of the limbal niche, the corneal
epithelial basal cell density and the corneal sub-basal nerve plexus density (SND). We here used
IVCM to evaluate changes in SND to improve LSCD classification.]

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**Increased high-density lipoprotein levels associated with age-related macular degeneration: evidence from the EYE-RISK and European Eye Epidemiology Consortia.**
Colijn JM. Ophthalmology 2019;126(3):393-406.
[Genetic and epidemiologic studies have shown that lipid genes and high-density lipoproteins (HDLs)
are implicated in age-related macular degeneration (AMD). The authors studied circulating lipid
levels in relationship to AMD in a large European dataset.]

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**Intraocular pressure and myopia progression in Chinese children: the Anyang Childhood Eye Study.**
[The purpose of this study was to explore the relationship between intraocular pressure (IOP) at
baseline and myopia progression in Chinese children from the Anyang Childhood Eye Study.]

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**Is combined cataract surgery associated with acute postoperative endophthalmitis? A nationwide study from 2005 to 2014.**
[The purpose of this cohort study was to assess the incidence of acute postoperative endophthalmitis (POE) after cataract surgery combined with corneal, glaucoma or vitreoretinal surgical procedures from 2005 to 2014 in France. The incidence of acute POE after combined surgery was related to the type of surgery performed simultaneously with cataract extraction.]
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Long-term visual outcome and its predictors in macular oedema secondary to retinal vein occlusion treated with dexamethasone implant.
[The purpose of this study was to evaluate the functional long-term outcome in patients with macular oedema (MO) secondary to central retinal vein occlusion (CRVO) and branch retinal vein occlusion (BRVO) treated with dexamethasone implant (DEX implant) and to identify its clinical predictors.]
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Macular dysfunction in patients with macula-on rhegmatogenous retinal detachments.
[The purpose of this study was to assess macular function in patients with macula-on rhegmatogenous retinal detachments (RRDs) using focal macular electroretinography (FMERG).]
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Mediterranean diet and incidence of advanced age-related macular degeneration: the EYE-RISK consortium.
[The purpose of this prospective cohort study was to investigate associations of adherence to the Mediterranean diet (MeDi) with incidence of advanced age-related macular degeneration (AMD; the symptomatic form of AMD) in 2 European population-based prospective cohorts.]
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Microvascular abnormalities secondary to radiation therapy in neovascular age-related macular degeneration: findings from the INTREPID clinical trial.
[The purpose of this study was to report the incidence and features of retinal microvascular abnormalities (MVAs) occurring secondary to stereotactic radiotherapy (SRT) in a randomised double-masked sham-controlled clinical trial at 21 European sites.]
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Optic nerve head cupping in glaucomatous and non-glaucomatous optic neuropathy.
[Enlargement of optic disc cupping is seen both in glaucoma and in neurological disorders. The authors used enhanced depth imaging with spectral-domain optical coherence tomography to differentiate glaucoma from non-glaucomatous optic neuropathy.]
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Outcomes of eyes lost to follow-up with proliferative diabetic retinopathy that received panretinal photocoagulation versus intravitreal anti–vascular endothelial growth factor.
[The purpose of the study was to compare anatomic and functional outcomes in eyes with proliferative diabetic retinopathy (PDR) that were lost to follow-up (LTFU) for more than 6 months after treatment with either intravitreal injection (IVI) of anti–vascular endothelial growth factor (VEGF) agents or panretinal photocoagulation (PRP).]
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Potential lost productivity resulting from the global burden of myopia: systematic review, meta-analysis, and modeling.
[We estimated the potential global economic productivity loss resulting from vision impairment (VI) and blindness as a result of uncorrected myopia and myopic macular degeneration (MMD) in 2015.]
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Preoperative vision and surgeon volume as predictors of visual outcomes after cataract surgery.
[The purpose of this retrospective cohort study was to evaluate the relationship between preoperative vision and surgeon volume with visual outcomes after cataract surgery.]
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Punctal occlusion for dry eye syndrome: summary of a Cochrane systematic review.
[Dry eye disease is a disorder of the tear film associated with ocular signs and symptoms. Punctal occlusion aids the preservation of natural tears. The authors conducted a Cochrane systematic review to assess the effectiveness of punctal plugs for managing dry eye. Randomised and quasi-randomised trials were included.]
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[The purpose of this population based study was to estimate the prevalence and main causes of blindness and vision impairment in people aged 50 years and older in Papua New Guinea (PNG).]
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Repeatability, interocular correlation and agreement of quantitative swept-source optical coherence tomography angiography macular metrics in healthy subjects.
[The aim of the study was to investigate the repeatability, interocular correlation and agreement of quantitative swept-source optical coherence tomography angiography (SS-OCTA) metrics in healthy subjects.]
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**Ten-year incidence of primary angle closure in elderly Chinese: the Liwan Eye Study.**
[The purpose of this study was to determine the 10-year incidence of all forms of primary angle closure (PAC) in phakic eyes and its risk factors in an urban Chinese population aged 50 years and older.]

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**The aravind pseudoexfoliation study: surgical and first-year postoperative results in eyes without phacodonesis and nonmiotic pupils.**
[The purpose of this prospective, comparative, interventional study, was to compare intraoperative complication rates, 1-year visual outcomes, and postoperative complication rates over the first postoperative year in eyes with and without pseudoexfoliation undergoing cataract surgery.]

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**The impact of SIGN glaucoma guidelines on false-positive referrals from community optometrists in Central Scotland.**
[The purpose of this study was to assess the impact of Scottish Intercollegiate Guidelines Network (SIGN) 144 on quality of referrals from community optometrists.]

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**Three-year outcomes of small incision lenticule extraction (SMILE) and femtosecond laser-assisted laser in situ keratomileusis (FS-LASIK) for myopia and myopic astigmatism.**
[The purpose of this retrospective study was to compare long-term clinical outcomes following small incision lenticule extraction (SMILE) and femtosecond laser-assisted laser in situ keratomileusis (FS-LASIK) for myopia and myopic astigmatism correction. It concludes that long-term follow-up analysis suggested that both SMILE and FS-LASIK were safe and equally effective for myopic and astigmatic correction.]

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**Uveitis in patients with multiple sclerosis in clinical trials of fingolimod: incidence, prevalence, and impact on disease course.**
Lim LL. *Ophthalmology* 2019;126(3):438-444.
[The purpose of this clinical trial was to determine the incidence and prevalence of uveitis and its effect on multiple sclerosis (MS) disease activity and outcomes in patients with MS who participated in the fingolimod clinical trial program.]

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**Variability in the ocular phenotype in mucopolysaccharidosis.**
[The ocular phenotype in MPS is variable, with corneal clouding occurring in MPSI, MPSIV and
MPSVI, and retinopathy in MPSI only. There was an association between corneal clouding and efficacy of systemic treatment as measured by biomarkers.

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**Variability of vertical cup to disc ratio measurement and the effects of glaucoma 5-year risk estimation in untreated ocular hypertensive eyes.**


[The purpose of this study was to compare the vertical cup to disc ratio (VCDR) measurements obtained with optical coherence tomography (OCT), Heidelberg retina tomography (HRT) and stereophotography of the optic nerve head (ONH) in patients with ocular hypertension (OHT), and their corresponding estimated 5-year risk for development of glaucoma.]

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**White matter microstructural alterations in amblyopic adults revealed by diffusion spectrum imaging with systematic tract-based automatic analysis.**


[The study investigated the microstructural changes in white matter of adults with amblyopia using diffusion spectrum imaging with systematic tract-based automatic analysis of the whole brain.]

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