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EDITORIAL

- 203 How should we release vitreomacular traction: surgically, pharmacologically, or pneumatically? Mark W. Johnson

ORIGINAL ARTICLES


In this prospective cohort study of patients with Acquired Immunodeficiency Syndrome (AIDS) in the highly active antiretroviral therapy era, non-cytomegalovirus ocular opportunistic infections were uncommon (~0.0001/person-year). Among patients with newly diagnosed infections, herpetic retinitis and choroidites appeared to have an increased mortality. For herpetic retinitis, rates of visual acuity and field loss appeared similar to cytomegalovirus retinitis.


All recipients of a corneal graft for keratoconus (KC) from a registry were evaluated up to 27 years after surgery for endothelial rejection, graft failure, and recurrent KC. Rejection occurred largely during the first 2 years after transplantation, with a 20-year probability of 48%; the 20-year probabilities of failure and recurrence were 12% and 10%, respectively. These results aid in counseling typically younger subjects with KC who are considering surgery regarding their long-term prognosis.

- 220 In vivo confocal microscopy in diagnosis of limbal stem cell deficiency. Mario Nubile, Manuela Lanzini, Ammar Miri, Augusto Pocobelli, Roberta Calienno, Claudia Curcio, Rodolfo Mastropasqua, Harminder S. Dua, and Leonardo Mastropasqua

Laser scanning in vivo confocal microscopy and impression cytology yielded a high degree of agreement for diagnosing limbal stem cell deficiency, discriminating the type of epithelial cells covering the corneal surface (ie, corneal, conjunctival, or mixed). Moreover, the former method also demonstrated a variable degree of anatomic changes in the limbal region in the eyes affected by partial or total limbal stem cell deficiency.

- 233 Clinical and microbiological profile of post-penetrating keratoplasty infectious keratitis in failed and clear grafts. Marios Constantinou, Vishal Jhanji, and Rasik B. Vajpayee

This study found that prolonged use of corticosteroid eye drops is a major risk factor for the occurrence of postkeratoplasty infectious keratitis. Infections in failed grafts occur earlier as compared to clear grafts. Infections with indolent organisms like Moraxella are prevalent in patients with failed grafts in Australia.

- 238 Increasing prevalence and severity of conjunctival chalasis with aging detected by anterior segment optical coherence tomography. Koray Gumus and Stephen C. Pflugfelder
This study investigated the impact of aging on formation of conjunctivochalasis in otherwise healthy subjects with no evidence of tear film dysfunction in an objective manner using anterior segment optical coherence tomography. The results objectively confirm that conjunctivochalasis can be observed even in younger, healthy eyes and its severity increases with age. The current study also provides a novel methodology and proposes an objective grading scheme for conjunctivochalasis that can be used in future investigations on the pathogenesis or impact of conjunctivochalasis.

- **243** Quality of image of grating target placed in model eye and observed through toric intraocular lenses. Makoto Inoue, Toru Noda, Kazuhiko Ohnuma, Hiroko Bissen-Miyajima, and Akito Hirakata
  The quality of the retinal image of grating targets placed in a model eye and viewed through implanted toric intraocular lenses was evaluated with a flat contact lens or a wide-angle viewing system. Toric intraocular lenses affect the contrast of the grating targets viewed through a flat contact lens with different magnifications along the flat and steep meridians but not through a wide-angle viewing lens. The wide-angle viewing system is not influenced by cylindrical aberrations.

- **253** Macular edema following cataract surgery in eyes with previous 23-gauge vitrectomy and peeling of the internal limiting membrane. Georgios Mylonas, Stefan Sacu, Gábor Dedk, Roman Dunavolgyi, Wolf Buehl, Michael Georgopoulos, and Ursula Schmidt-Erfurth, on behalf of the Macula Study Group Vienna
  There is a significant increase in retinal thickness and frequent macular edema after successful cataract surgery in patients with previous vitrectomy and peeling of macular pucker and internal limiting membrane.

  About 50% of patients with reticular pseudodrusen had bilateral late age-related macular degeneration, and the connection of age-related maculopathy susceptibility 2 risk allele and reticular pseudodrusen was confirmed in a Japanese population.

- **270** Intravitreal injection of expansile perfluoropropane (C3F8) for the treatment of vitreomacular traction. Ian A. Rodrigues, Alexandros N. Stangos, Dominic A. McHugh, and Timothy L. Jackson
  Symptomatic and persistent vitreomacular traction is an increasingly recognized condition that can easily be visualized with the emergence of spectral-domain optical coherence tomography. Intravitreal injection of expansile perfluoropropane appears to effectively and safely release vitreomacular traction in a range of conditions. It may therefore offer a minimally invasive and readily accessible treatment for some patients who might otherwise require pars plana vitrectomy.

- **277** Computerized assessment of intraretinal and subretinal fluid regions in spectral-domain optical coherence tomography images of the retina. Yalin Zheng, Jayashree Sohri, Claudio Campa, Alexandros N. Stangos, Ankur Raj, and Simon P. Harding
  We report a dedicated computerized segmentation technique for quantification of intraretinal and subretinal fluid regions in spectral-domain optical coherence tomography (SD OCT) images. The performance of this technique was validated on 37 B-scan images against manual segmentation performed by retinal specialists. Our results
demonstrate the ability of this technique to quantify fluid-filled regions rapidly, accurately, and reliably from SD OCT images and its potential as a useful tool in the automated assessment of SD OCT images in clinical practice and research.

• 287 Intravitreal bevacizumab for macular complications from retinal arterial macroaneurysms. Francesco Pichi, Mariachiara Morara, Carlo Torrazza, Gianluigi Manzi, Micol Alkabes, Nicole Balducci, Lucia Vitale, Andrea Lembo, Antonio P. Ciardella, and Paolo Nucci

Current treatment options for macular complications of retinal arterial macroaneurysms rarely lead to improved visual acuity. The aim of this study was to evaluate the effect of 3 monthly injections of bevacizumab on best-corrected visual acuity and on central retinal thickness in 37 patients with hemorrhagic or exudative macular complications attributable to macroaneurysms. The treatment regimen proved to be safe and effective in improving visual acuity and in reducing central retinal thickness.

• 295 Argon laser with and without anti-vascular endothelial growth factor therapy for extrafoveal polypoidal choroidal vasculopathy. Chui Ming Gemmy Cheung, Ian Yeo, Xiang Li, Ranjana Mathur, Shu Yen Lee, Choi Mun Chan, Doric Wong, and Tien Yin Wong

In this prospective cohort study of Asian patients with polypoidal choroidal vasculopathy (PCV), eyes with extrafoveal PCV, including those with fluid or blood involving the fovea, were treated with argon laser. Adjunct anti-vascular endothelial growth factor (VEGF) was given in 36.4%. The results demonstrated this approach achieves stable or improved visual outcome in most eyes. Anti-VEGF use was associated with thicker central subfield at baseline.

• 305 Relationship between clinical characteristics of polypoidal choroidal vasculopathy and choroidal vascular hyperpermeability. Hideki Koizumi, Tetsuya Yamaishi, Taizo Yamazaki, and Shigeru Kinoshita

Polypoidal choroidal vasculopathy with choroidal vascular hyperpermeability seen on indocyanine green angiography had a significant relationship with bilateral involvement of the neovascular membrane, a history of central serous chorioretinopathy, a thickened choroid, and poor response to intravitreal injections of ranibizumab. Such angiographic findings may be important when considering the management of polypoidal choroidal vasculopathy.

• 314 The relationship between axial length and choroidal thickness in eyes with high myopia. Ignacio Flores- Moreno, Francisco Lugo, Jay S. Duker, and José M. Ruiz-Moreno

Spectral-domain optical coherence tomography images from 120 highly myopic and 96 eyes of 62 healthy patients were retrospectively analyzed to investigate choroidal thickness. Two independent observers made 11 measurements (1 subfoveal, 5 temporal, and 5 nasal) at 500-μm intervals. Choroidal thickness in highly myopic patients is thinner than in controls, with a different profile in high myopia. Increasing age, refractive spherical equivalent, and especially axial length are negatively correlated with high myopia choroidal thickness.

In highly myopic eyes with dome-shaped maculas, 2 outward concavities of retinal pigment epithelium were seen within the posterior staphyloma, and a horizontal ridge was formed between these 2 concavities. Of 51 eyes with dome-shaped maculas, the horizontal ridge was band shaped in 42 and was of the typical dome-shaped convexity in 9 eyes. Although no outward protrusions were seen on the external scleral surface, marked scleral thinning was seen consistent with 2 outward concavities.

329 The effect of lateral decubitus position on intraocular pressure in patients with untreated open-angle glaucoma. Jong Yeon Lee, Chungkwon Yoo, and Yong Yeon Kim
Positional change from the supine to lateral decubitus position may increase the intraocular pressure of the lower-side eye of patients with open-angle glaucoma. Such an intraocular pressure rise tended to be larger in eyes with greater visual field damage than in fellow eyes with less damage. These results suggest a possible association between the side on which one sleeps and the asymmetric visual field damage in patients with bilateral open-angle glaucoma.

336 Topiramate use and the risk of glaucoma development: a population-based follow-up study. Jau-Der Ho, Joseph J. Keller, Ching-Yao Tsai, Shiou-Wen Liu, Chih-Ju Chang, and Hsing-Ching Lin
Topiramate use in Taiwan was associated with a significantly increased risk of being diagnosed with glaucoma within the first month after receiving a prescription for the drug.

Polymorphisms in the CDKN2B-AS1 region are among the first genetic biomarkers reproducibly linked to primary open-angle glaucoma in the genomic era. Studying the relation between CDKN2B-AS1 region alleles and glaucoma features reveals that these polymorphisms modify predisposition to optic nerve degeneration in glaucoma. Patients with alleles that reduce disease risk tend to have smaller cup-to-disc ratio despite higher intraocular pressure. Knowledge of genotypes in this region may help to optimize glaucoma management in the future.

354 Normative reference ranges for the retinal nerve fiber layer, macula, and retinal layer thicknesses in children. Susan E. Yanni, Jingyun Wang, Christina S. Cheng, Kelly I. Locke, Yuquan Wen, David G. Birch, and Eileen E. Birch
This article contains a normative database of North American children, and provides reference ranges for retinal layer thicknesses from spectral-domain optical coherence tomography images in order to broaden the scope of the normative database. Normative data for individual
retinal layers may be useful in the differential diagnosis and management of vitreoretinal dystrophies and optic nerve disease, and can be useful in guiding molecular genetic testing.

361 Biometric and molecular characterization of clinically diagnosed posterior microphthalmos. Sawsan R. Nowilaty, Arif O. Khan, Mohammed A. Aldahmesh, Khalid F. Tabbara, Abdullah Al-Amri, and Fouzam S. Alkuraya

Biometric analysis of clinically diagnosed posterior microphthalmos reveals that as axial length decreases, corneal diameter decreases while corneal power increases. This finding and the fact that recessive mutations in PRSS56 or MFRP cause the condition support the concept that posterior microphthalmos and nanophthalmos represent a spectrum of high hyperopia rather than distinct phenotypes.

373 Serologic factors in early relapse of IgG4-related orbital inflammation after steroid treatment. Toshinobu Kubota, Masao Katayama, Suzuko Moritani, and Tadashi Yoshino

Patients with IgG4-related orbital inflammation frequently have elevated serum rheumatoid factor, which may be related to an early recurrence of the lesions. High serum IgG4 levels suggest systemic immunologic imbalances, multiple systemic organ involvement, and longer periods of the disease. CD5-positive B cells probably play a role in the IgG4-related lesions.

380 The cytologic composition of dacryops: an immunohistochemical investigation of 15 lesions compared to the normal lacrimal gland. Frederick A. Jakobiec, Fouad R. Zakka, and Lynn P. Perry

Fifteen lesions of dacryops (lacrimal duct cyst) were analyzed clinicopathologically and immunohistochemically. Thirteen involved the major lacrimal gland and 2 the forniceal accessory glands of Krause. One case was bilateral. The 14 patients’ average age was 50.7 years. The specimens did not display apocrine (gross cystic disease fluid protein-15–negative) or myoepithelial (smooth muscle actin–negative) differentiation. None recurred after local excision. Current concepts of a neuromuscular causation should be revised.

397 Blepharoptosis repair outcomes from trainee versus experienced staff as the primary surgeon. Viraj J. Mehta and Julian D. Perry

This retrospective study compared outcomes of conjunctival Mullerectomy with or without tarsoconjunctiva versus external levator advancement for correction of upper blepharoptosis when performed by trainee versus staff surgeons. There was no significant difference in eyelid symmetry, mean anesthesia time, complication rates, or reoperation rates between the 2 groups of surgeons. These results can enhance the informed consent dialog regarding the participation of ophthalmic surgical trainees in blepharoptosis surgery.

CORRESPONDENCE

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404 Evolution of early changes at the vitreoretinal interface after cataract surgery determined by optical coherence tomography and ultrasonography. Domagoj Ivastinovic, Eva Maria Pöschl, Christoph Schwab, Andreas Borkenstein, Eva-Maria Lackner, Andreas Wedrich, and Michaela Velikay-Parel
405 Outcomes of deep anterior lamellar keratoplasty using the big-bubble technique in various corneal diseases. Jiaxu Hong, Xinghuai Sun, and Jianjiang Xu

406 Reply. Ting Huang, Xueyan Zhang, Yun Wang, Hong Zhang, Andina Hu, and Na Gao

407 Iatrogenic retinal artery occlusion caused by cosmetic facial filler injections. Stefano Lazzeri, Michele Figus, Marco Nardi, Davide Lazzeri, Tommaso Agostini, and Yi Xin Zhang

408 Reply. Se Joon Woo and Sung Wook Park

409 Avastin doesn’t blind people, people blind people. Richard Spaide

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