

# TURKISH JOURNAL OF OPHTHALMOLOGY



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## EDITORIAL

### 2019 Issue 2 at a Glance:

This issue of our journal includes an interesting selection of six original articles, one review, and five case reports concerning the cornea, glaucoma, and retinal diseases.

Some corneal infections are resistant to medical treatment and can lead to acute corneal perforation. The purpose of therapeutic-ectonic penetrating keratoplasty (TPPC) in patients with corneal abscess is to remove the infected tissue, reduce the infection load, and maintain globe integrity in those who develop corneal perforation. Doğan and Arslan retrospectively analyzed their outcomes of TPPC in eyes with perforated infectious corneal ulcers and showed that globe integrity was preserved in 97.6% of patients and 71% of grafts were transparent at 2 years (see pages 55-60).

Oxidative stress is known to play an important role in the pathogenesis of pseudoexfoliation syndrome (PEX) and glaucoma. In a study including 58 patients with pseudoexfoliation glaucoma (PXG), 47 patients with PEX, and 134 healthy individuals, Aydın Yaz et al. determined that serum malondialdehyde (MDA) level was highest in XFG patients and lowest in the healthy individuals, and was a significant parameter in the progression of glaucoma. They reported that superoxide dismutase (SOD) and catalase (CAT) enzyme activities were significantly lower in PEX and PXG patients compared to the control group, possibly related to deficiency of antioxidant defense mechanisms, while glutathione (GSH) level was elevated, perhaps as a compensatory response to oxidative stress. Nitric oxide (NO) concentrations were found to be lower in PXG patients, suggesting that vascular regulatory factors are involved in the transition from PEX to PXG (see pages 61-67).

Diabetic retinopathy (DR) is among the leading causes of preventable blindness. Chronic elevation of blood glucose can lead to vasodilation, vascular leakage, retinal microvascular damage, vascular endothelial growth factor (VEGF) secretion secondary to ischemia, and neovascularization. Oxytocin, synthesized by the hypothalamus, has anti-inflammatory and antioxidant effects in addition to its muscle contraction and vasoregulatory effects. Değirmenci et al. evaluated the protective effect of intravitreal and intraperitoneal oxytocin on retinopathy in a streptozocin-induced diabetes rat model and showed that

at 4 weeks after treatment, the outer nuclear layer was thicker and VEGF protein expression was lower in the treatment group than in the saline group, with a more pronounced difference in the intravitreal group (see pages 68-72).

Diabetic macular edema (DME) is the leading cause of vision loss in patients with DR. Nalçacı et al. administered a single intravitreal dexamethasone implant to 20 eyes of 14 patients with DME refractory to intravitreal ranibizumab. Although they observed no improvement in best corrected visual acuity at 6 months, subfoveal thickness was reduced and there was no increase in intraocular pressure (see pages 73-77).

Kola et al. evaluated the repeatability and agreement of macular thickness measurements obtained using two different retinal scan modes, E-MM5 and MM6, of the Optovue RTVue optical coherence tomography (OCT) device in healthy eyes and reported high repeatability for macular thickness measurements. The authors attributed discrepancies in perifoveal measurements between the two scan modes to differences in their software algorithms (see pages 78-83).

Neovascular age-related macular degeneration (NVAMD) is a destructive disease characterized by neovascularization (NV) in the macula that causes exudative changes affecting all retinal layers, and is currently among the leading causes of severe, permanent vision loss in adults over the age of 55. Menteş and Yıldırım evaluated the spectral-domain OCT (SD-OCT) characteristics of 27 eyes with nonexudative AMD that later developed signs of exudation in 27 patients under follow-up and treatment for NVAMD in their fellow eye. In B-scan SD-OCT imaging, all of the eyes exhibited marked retinal pigment epithelium (RPE) irregularities and undulations due to the presence of a moderately reflective material below the RPE, but had no signs of subretinal, intraretinal, or sub-RPE fluid. In en face SD-OCT imaging, 88.8% of the eyes showed hyperreflective lesions consistent with sub-RPE type 1 NV. Fluorescein angiography revealed no signs of type 1 NV, but the presence of macular plaques was detected in 29.6% of eyes by indocyanine green angiography. The authors concluded that B-scan SD-OCT imaging is a reliable method that provides early and specific evidence of nascent preclinical type 1 NV under the RPE in eyes without exudative symptoms (see pages 84-88).

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According to 2010 data from the World Health Organization, there are an estimated 285 million people with visual impairment worldwide. Of these, 39 million are blind and 246 million have low vision. Low vision rehabilitation aims to increase the quality of life of individuals with untreatable low vision and blindness by enabling them to live independently, enjoy life, and have a gainful vocation or skill that can provide financial income. In this issue, Şahlı and İdil present a comprehensive review of modern low vision rehabilitation, including the intake, evaluation of residual visual functions, evaluation of residual functional vision, and devices used in low vision rehabilitation (telescopes, high-diopter near spectacles, magnifiers, filtering lenses, electro-optical systems, and non-optical systems) (see pages 85-98).

Relapsing polychondritis (RP) is a potentially life-threatening idiopathic inflammatory disease that can affect the ear, nose, larynx, tracheobronchial tree, and cardiovascular system. Approximately 60% of patients present with ocular involvement such as scleritis, episcleritis, keratitis, conjunctivitis, and uveitis. Hasanreisöđlu et al. diagnosed RP in a 22-year-old woman referred to their clinic due to bilateral uveitis based on accompanying auricular chondritis and successfully treated her with topical and oral steroid therapy (see pages 99-101).

Canaliculitis is a rare condition caused by infection of the canalicular system by various pathogens. It accounts for about 2% of lacrimal system diseases and generally affects middle-aged and older adults. In their case report, Eraslan Yusuföđlu and Güngör Kobat discuss the clinical examination findings and treatment of a 12-year-old girl who presented with complaints of swelling and discharge from the right lower eyelid and was diagnosed with canaliculitis. After surgical removal of the dacryoliths by punctoplasty and curettage and treatment with topical crystallized penicillin, the patient's symptoms completely resolved and had not recurred in 12 months of follow-up. Histopathologic examination of the dacryoliths revealed the infectious agent to be *Actinomyces* (see pages 102-105).

Bietti crystalline dystrophy (BCD) is a retinal dystrophy characterized by shiny yellow crystalline deposits in the retina and sometimes the corneal limbus with progressive chorioretinal atrophy starting in the posterior pole, shown to occur as a result of mutation in the CYP4V2 gene. İpek et al. evaluated the SD-OCT angiography and swept-source OCT angiography images

of a woman with CBD who was followed for 10 years. They reported visible choroidal vessels due to RPE atrophy in the outer retinal projection and markedly reduced choriocapillaris flow in the choriocapillaris projection. The authors stated that OCT angiography was important for monitoring choroidal blood flow and changes in the choroidal vasculature in BCD (see pages 106-108).

Posterior vitreous detachment (PVD) is the detachment of the posterior vitreous cortex from the internal limiting membrane due to liquefaction of the vitreous gel and weakened vitreoretinal adhesion. Vitreomacular traction (VMT) can occur as a result of tractional interactions between the vitreous and retina during the progression of PVD. VMT can cause cysts in the inner and/or outer retinal layers, full-thickness macular hole, and schisis, or can regress spontaneously without causing any structural changes. In a case report retrospectively evaluating the SD-OCT findings of three patients who developed VMT during the course of incomplete PVD, Yıldırım et al. observed an operculum over the macula on the detached posterior hyaloid membrane, and an outer retinal microdefect at the fovea extending from the inner border of the RPE to the outer limiting membrane following the spontaneous regression of VMT. These defects were found to reduce in size over long-term follow-up, but did not completely close (see pages 109-113).

Purtscher's retinopathy is a microvascular occlusive disease first described as a result of severe head trauma and characterized by retinal findings of cotton-wool spots and hemorrhage. Onaran et al. observed extensive retinal lesions consistent with cotton-wool appearance in the posterior poles of both eyes of a 16-year-old patient who presented to the hospital with muscle weakness, fatigue, vomiting, and clouding of consciousness after using the synthetic cannabinoid Bonzai. OCT revealed subretinal fluid and macular edema in both eyes, and fundus fluorescein angiography showed hypofluorescent areas due to blockage and late leakage from the retinal vessels, leading to a diagnosis of Purtscher-like retinopathy (see pages 114-116).

We hope you read the articles in this issue of our journal with interest and pleasure.

**Respectfully on behalf of the Editorial Board,  
Banu Bozkurt, MD**