TURKISH JOURNAL OF OPHTHALMOLOGY

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EDITORIAL

2022 Issue 1 at a Glance:

This issue of our journal features eight original research articles, one review, and three case reports that we hope will be interesting and beneficial for our readers.

Microbial keratitis is a serious condition that can result in corneal scarring, perforation, and blindness. It usually occurs in the presence of predisposing factors such as contact lens (CL) use. Determining the incidence, the diversity of microbial agents, and predisposing factors of microbial keratitis are necessary for effective treatment and prevention. Yarımada et al. evaluated the medical records of 314 patients with corneal ulcers suggestive of microbial keratitis who presented to a tertiary center in Izmir and had cultures performed. They recorded the patients' demographic, clinical, and laboratory data; lesion characteristics including the location and number of keratitis foci; presence of predisposing factors such as CL use, trauma, recurrent corneal erosion, corneal graft, and ocular or systemic disease; and the type of microorganism detected in culture. The results showed that in western Turkey, CL use was the biggest risk factor for microbial keratitis and *Pseudomonas aeruginosa* was the most frequently isolated microbial agent. The authors emphasized that microbiological analysis and culture are important steps in the appropriate therapeutic management of microbial keratitis (see pages 1-5).

Ay and Alay determined the frequency of ocular symptoms and levels of inflammation markers in 53 patients treated in the intensive care unit due to severe acute respiratory tract infection coronavirus 2 (SARS-CoV-2) infection and prospectively investigated the association between these parameters and mortality. Congestion was observed in 13 patients (24.5%), serous secretion in 6 patients (11.3%), and chemosis in 3 patients (5.7%). Every 1 mg/dL increase in C-reactive protein level was associated with 1.9% lower odds of detecting inflammatory eye signs (95% confidence interval: 3.3%-0.4%). Their results draw attention to the importance of ocular surface examination in patients receiving intensive care treatment due to COVID-19 (see pages 6-13).

Bozkurt Oflaz et al. conducted a study to evaluate the effects of auditory biofeedback training using microperimetry in patients with foveal scar and a retinal locus eligible for better fixation. They observed that the retinal locus trained with biofeedback training increased average retinal sensitivity, fixation stability, and reading speed and improved contrast sensitivity and quality of life (see pages 14-22).

Altınbay and İdil examined 63 eyes of 63 patients with age-related macular degeneration (AMD) in their prospective study to determine fixation stability and characteristic features of the preferred retinal area (PRL) in advanced AMD. They determined that the distance of the PRL from the fovea was significantly associated with fixation stability, with greater PRL-fovea distance in patients with unstable fixation compared to patients with stable fixation (p=0.023). Considering the strong relationship between fixation stability and reading speed, this finding emphasizes the importance of knowing the factors associated with fixation stability in late AMD in terms of restoring reading ability in low vision rehabilitation (see pages 23-29).

Sönmez et al. analyzed the optical coherence tomography angiography (OCT-A) and peripheral visual field data of 11 patients with acute non-arteritic anterior ischemic optic neuropathy (NAION) and 14 controls. They determined that peripapillary and optic nerve head hypoperfusion areas correlated with visual field defects in 6 of the patients, and that the patients had lower optic disc head capillary density (p=0.008) and reduced radial peripapillary capillary density in all sectors except the inferonasal sector. The authors concluded that OCT-A is a current, rapid, and non-invasive method for the evaluation of peripapillary microcirculation in NAION patients (see pages 30-36).

Özdek et al. aimed to evaluate the effects of two- and four-quadrant partial-thickness sclerectomy and sclerotomy surgery on visual and anatomical outcomes in the treatment of nanophthalmus (NO)-related uveal effusion (UE). Of 14 eyes of 10 patients operated, 11 eyes underwent four-quadrant surgery and 3 eyes with glaucoma underwent two-quadrant surgery. External drainage of subretinal fluid was added in 1 eye with total retinal detachment. Because retinal reattachment occurred in only 1 of the 3 eyes that underwent primary two-quadrant surgery, in the other 2 eyes the remaining two quadrants were also operated to complete four-quadrant sclerectomy. At last follow-up, retinal reattachment was observed in 11 eyes (78.6%), partial reattachment in 1 eye (7.1%), and recurrence of macular detachment in 2 eyes (14.3%). The authors noted that partial-thickness sclerectomy and sclerotomy surgery are effective in the treatment of UE in eyes with NO, and external drainage of subretinal fluid may be an option to achieve a faster response in severe cases (see pages 37-44).

Idiopathic juxtafoveal telangiectasia (IMT) is associated with foveal thinning, crystalline deposits in the macula, telangiectatic vascular changes with leakage, and macular neovascularization (MNV). Macular telangiectasia type 2 (MacTel 2), a subgroup of IMT, is an acquired bilateral disease that causes decreased visual acuity and metamorphopsia, most commonly occurring in middle-aged adults. Çoban Karataş et al. compared the best-corrected visual acuity, central macular thickness (CMT), and central choroidal thickness (CCT) values

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of MacTel 2 patients and a control group and evaluated the efficacy of intravitreal anti-VEGF therapy in MacTel 2 patients with MNV. The MacTel 2 group had significantly lower CMT and CCT than the control group, 8 eyes of 7 patients with MacTel 2 developed MNV during follow-up, and all patients were treated with intravitreal anti-VEGF. The authors concluded that MacTel 2 patients should be closely monitored for the development of MNV, and intravitreal anti-VEGF therapy may be beneficial in patients with proliferative MacTel 2 and reduced visual acuity (see pages 45-49).

Ceylan and Yeniad prospectively evaluated tear film changes with tear film break-up time and Schirmer tests, corneal staining patterns, Ocular Surface Disease Index scores, and corneal topography and autorefractometry results preoperatively and at postoperative 1 day, 1 week, 1 month, 3 months, and 6 months in 32 eyes of 20 patients who underwent ptosis surgery and/or upper lid blepharoplasty: blepharoplasty in 12 eyes (group 1), blepharoplasty with levator surgery in 8 eyes (group 2), and levator surgery only in 12 eyes (group 3). They determined that ptosis surgery and upper lid blepharoplasty can cause dry eye symptoms that vary according to the surgical procedure performed and can persist at postoperative 6 months, that levator surgery can cause temporary refractive changes, and upper lid blepharoplasty does not cause postoperative keratometric changes (see pages 50-56).

The space race began with the Soviet Union launching the artificial satellite Sputnik 1 on October 4, 1957, followed by animal and manned flights. Thanks to the International Space Station, the numbers of space flights and people exposed to space conditions are increasing. Space studies have revealed several problems that affect human biology, including low gravity, lack of atmosphere, galactic cosmic rays, and solar energetic particles. Microgravity (MG) and space radiation constitute a major part of these problems. In this issue's review, Özelbaykal et al. examines the literature on the effects of MG and space radiation on the eye and shares treatment methods and hypotheses about what can be done to mitigate the effects of MG and space radiation on biological structures (see pages 57-63).

Conditions involving disruptions in Descemet's membrane (DM) integrity such as rupture and detachment manifest with corneal edema and vision loss due to DM folds. Acute corneal hydrops is characterized by DM rupture as a result of stretching of the DM due to corneal ectasia. The DM rupture allows aqueous fluid to enter the corneal stroma and corneal epithelium. Although loss of DM integrity resolves spontaneously, severe visual symptoms or vision loss and long disease duration negatively influence quality of life and cause significant visual morbidity. Özcan and Özlenen Uçakhan evaluated treatment responses in a total of four patients, two who were treated with isoexpansile 14% C_3F_8 injection into the anterior chamber for acute hydrops due to keratoglobus or keratoconus, and two who were treated with intracameral 14% C_3F_8 injection with corneal compression sutures for chronic, large DM detachments due to keratoglobus and chronic hydrops complicated by multiple stromal clefts on anterior segment optical coherence tomography in one patient and after cataract surgery in the other patient. Complete and effective DM reattachment with surgery was reported in all patients. The authors stated that surgical treatment of corneal hydrops with intracameral gas injection and corneal compression sutures provides rapid symptomatic relief, better visual rehabilitation, less corneal scarring, and may reduce the need for corneal transplantation in this patient group (see pages 64-68).

Arıcı et al. detected diffuse corneal edema, DM folds, and an intact upside-down graft on slit-lamp examination of a 29-year-old woman who was referred for corneal edema after uneventful pterygium excision with conjunctival autograft. Within two weeks of treatment with topical dexamethasone, a complete response was observed, but severe endothelial cell loss was observed in the operated eye on specular microscopic examination. In long-term follow-up, mild corneal haze causing a decrease in visual acuity to 20/50 was observed. With this case report, the authors emphasize that povidone iodine should be carefully cleared during pterygium surgery and its penetration into the anterior chamber should be prevented to avoid potentially serious complications (see pages 69-71).

Erlotinib is a tyrosine kinase inhibitor that specifically targets the epidermal growth factor receptor and is frequently used in the treatment of lung cancer. It can cause ocular complications ranging from mild dry eye syndrome to corneal perforation requiring corneal transplantation. Mangan presents a patient who was using erlotinib for 3 years for non-small cell lung cancer and was referred from the oncology clinic with complaints of burning, stinging, pain, and dryness in both eyes and outward turning of both lower eyelids. One week after temporarily discontinuing erlotinib with approval from the oncology department, the patient's cicatricial ectropion had improved dramatically and all complaints completely resolved. The author noted that good communication between oncologists and ophthalmologists along with risk assessment and joint decision-making can reduce systemic and ocular complications (see pages 72-74).

We hope that the articles in our first issue of the year will make for interesting reading and provide guidance in your professional practice.

Respectfully on behalf of the Editorial Board,

Özlem Yıldırım, MD