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EDITORIAL

## 2020 Issue 1 at a Glance:

This issue of our journal features six original articles, one review, and four case reports that we hope you will find interesting and informative.

Posterior capsule opacification (PCO) is a clinical condition that develops after cataract surgery and leads to reductions in visual acuity and contrast sensitivity. The gold standard treatment for PCO is neodymium-doped yttrium aluminum garnet (Nd:YAG) laser. PCO is one of the main factors that can affect signal strength (SS) in optical coherence tomography (OCT). Vatansever et al. used Nd:YAG laser to treat 41 eyes of 35 patients who developed PCO after uncomplicated cataract surgery and had a PCO score of 3 or higher. The authors compared OCT data obtained before and 1 month after laser treatment and showed that postoperative best corrected visual acuity, SS, and central retinal thickness were significantly increased and SS was correlated with visual acuity in patients with PCO. They emphasized that PCO may affect the accuracy of objective data acquired with OCT (See pages 1-5).

Küçükiba et al. conducted a study to determine the prevalence of peripheral retinal changes in patients with age-related macular degeneration (AMD). They evaluated color and autofluorescence fundus images obtained in that order from 550 eyes of 277 AMD patients and 90 eyes of 45 healthy individuals in the control group using an ultra-wide-angle imaging system. They determined that peripheral retinal changes were more prevalent in AMD patients compared to healthy controls and concluded that AMD is not just a macular disease, but can affect the entire retina (See pages 6-14).

In their study evaluating pre-treatment stereopsis and fusional vergence amplitudes in children diagnosed with attention deficit and hyperactivity disorder (ADHD) compared to a control group, Karaca et al. retrospectively analyzed the detailed ophthalmologic examination with stereopsis and fusional vergence amplitudes of 23 newly diagnosed and untreated ADHD patients and 48 control subjects. They found that mean pretreatment stereopsis was significantly lower in children with ADHD while fusional verge amplitudes did not differ significantly (See pages 15-19).

Kırgız et al. conducted a prospective study using corneal topography to evaluate the effect of cycloplegia on the anterior segment structures of patients with keratoconus and form fruste keratoconus. Their study included single eyes of 40 patients with keratoconus (group 1), 40 patients with form fruste keratoconus (group 2), and 40 healthy individuals (group 3), and showed that cycloplegia caused corneal steepening only in patients with manifest keratoconus but caused an increase in anterior chamber depth in all groups. This result highlights the importance of considering these effects of cycloplegia when conducting refraction examination, monitoring progression, and using contact lenses and phakic intraocular lenses in cases of keratoconus.

Sezenöz et al., analyzed macular ganglion cell complex (GCC) thickness, total retinal thickness, retinal nerve fiber layer thickness, and ganglion cell complex/total retinal thickness (G/T) ratio data from 9 healthy patients, 18 ocular hypertension patients, 28 preperimetric glaucoma patients, and 31 early glaucoma patients. They concluded that G/T ratio did not contribute significantly to the differentiation of ocular hypertension, preperimetric, and early glaucoma patients from the healthy population and had lower diagnostic value than the other examined parameters (See pages 26-30).

Köse et al. conducted a retrospective study evaluating the demographic, clinical, and imaging characteristics, treatment, and follow-up results of patients with iris cysts. In their study, 37 patients followed and treated for iris cysts were examined using ultrasound biomicroscopy (UBM), swept source OCT (SS-OCT), and SS-OCT angiography (SS-OCTA). The authors reported that most of the cysts were of primary etiology, originated from the pigment epithelium, and were located peripherally; that pigment epithelial cysts do not require any treatment, while stromal cysts usually require treatment; that UBM is superior to anterior segment OCT for imaging iris lesions and differentiating cystic and solid lesions; and that the development of anterior segment OCTA techniques has enabled the acquisition of information about the internal vascular structure of these tumors by non-invasive means (See pages 31-36).

Artificial intelligence is the ability of a computer to mimic the intellectual intelligence unique to humans. This intelligence framework may include qualities such as the ability to identify causation, make generalizations, and learn from experience. Artificial intelligence is developing rapidly and making its way into all areas of our lives, and in this issue's review, Keskinbora and Güven discuss advances and potential applications of

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artificial intelligence both in ophthalmology and within the framework of medical ethics. They share with readers that several artificial intelligence algorithms, some of which have been approved by the US Food and Drug Administration, have found their place in the field of ophthalmology, especially in studies focused on diagnosis, and that several studies have been developed that demonstrate the utility of artificial intelligence algorithms in the specific areas of diabetic retinopathy, AMD, and retinopathy of prematurity (See pages 37-43).

Posterior microphthalmia (PM) is a type of microphthalmia characterized by hyperopia, short axial length, posterior segment foreshortening, and normal or nearly normal anterior segment dimensions. Prominent posterior segment changes in PM include retinal folds, macular schisis, cystoid lesions, reduction or absence of the foveal avascular zone, pseudopapilledema, and uveal effusion. Engin et al. evaluated treatment response in 4 patients (8 eyes) diagnosed with PM and treated with topical 1% brinzolamide (AzoptTM; Alcon Inc., Belgium) for at least 6 months. They reported that during follow up, central macular thickness and cystoid lesion area decreased bilaterally in 3 patients and increased bilaterally in the other patient, while visual acuity remained stable in 5 eyes and improved in 3 eyes. Their study draws attention to the potential effectiveness of topical brinzolamide in the treatment of macular cystoid lesions in selected patients (See pages 44-49).

Öztürk and Süllü describe a 56-year-old male patient who presented with complaints of new-onset conjunctival hyperemia and blurred vision in both eyes. The patient reported having used 960 mg vemurafenib twice a day for the last 9 months due to cutaneous melanoma. Slit-lamp examination revealed bilateral keratic precipitates, +4 cells in the anterior chamber, and a pupillary membrane, while optic disc staining was observed on fluorescein angiography (FA). Etiological studies indicated no additional pathology, and the uveitis was attributed to vemurafenib. Due to the life-threatening nature of cutaneous melanoma, it was decided to continue treatment and initiate topical corticosteroid and cycloplegics. During follow-up, the uveitis assumed a granulomatous character and the patient's serum angiotensin converting enzyme (ACE) level increased. The authors emphasize with this case report that ocular sarcoidosis must be considered in patients with vemurafenib-associated uveitis (See pages 50-52).

Ocular adnexal lymphomas (OALs) usually arise from B cell proliferation and can develop in the conjunctiva, eyelid, lacrimal glands, and orbit. The most common form of OAL is extranodal marginal zone B cell lymphoma (MZL), a very rare subtype of childhood non-Hodgkin lymphoma (NHL). Although most NHLs have an aggressive course in children, this rare type tends to have a slow course. In a case report by Çetingül et al., a 10-year-old girl presented with a rapidly growing salmon-colored mass protruding from the medial right lower eyelid that was noticed about 1 month earlier. The lesion was imaged using magnetic resonance imaging (MRI) and removed by mass excisional biopsy. Histopathological examination revealed B cell MZL. No involvement other than the lesion in the right eye was detected, and the patient was treated with external radiotherapy at a total dose of 36 Gy divided into fractions of 1.8 Gy/day for 17 days. The authors point out that although rare, ocular adnexal MZL can also be seen in children and that, just as with adult patients, conducting a biopsy is necessary in suspicious cases for definitive diagnosis and performing systemic evaluation for involvement of other areas is important (See pages 53-55).

Menteş and Nalçacı used clinical examination and spectral domain OCT to diagnose idiopathic epiretinal membrane (ERM) and stage 3 posterior vitreous detachment (PVD) in a 54-year-old woman presenting with complaints of floaters in her right eye, and they decided to follow-up with observation. Four months later, the patient presented with metamorphosis, and examination showed that she had decreased visual acuity but nearly no change in ERM findings. The patient presented again 1 week later due to the sudden resolution of her metamorphosis, and examination showed that her visual acuity had increased to 20/20, the ERM had spontaneously separated from the retinal surface in the form of a flap and was floating in the vitreous, and the foveal contour had normalized. The etiological mechanism was shown to be the stronger contraction forces within the immature ERM relative to the adhesive forces of the membrane to the retina (See pages 56-58).

We hope that the articles featured in the first issue of this year will be interesting to you and guide you in your professional practice.

**Respectfully on behalf of the Editorial Board,**

**Özlem Yıldırım, MD**