

AT A GLANCE

2024 Issue 2 at a Glance:

Esteemed colleagues,

This issue of our journal features 4 original research articles, 2 reviews, and 4 case reports regarding different branches of ophthalmology that we think you will read with interest.

Although retinoscopy is the gold standard for refractive measurements in the pediatric age group, this method requires time and experience and is performed by ophthalmologists. The Welch-Allyn Spot Vision Screener (SVS) is a new handheld infrared photorefractometer that was designed to measure pupil size, interpupillary distance, ocular alignment, and refractive errors and can easily be used by healthcare professionals other than ophthalmologists. In their study titled "Comparison of Spot Vision Screener and Tabletop Autorefractometer with Retinoscopy in the Pediatric Population", Arslantürk Eren et al. obtained cycloplegic retinoscopy, SVS, and benchtop autorefractometer measurements from 44 patients between 6 months and 17 years of age and evaluated the correlation of spherical and cylindrical values, spherical equivalent, and Jackson cross-cylinder values at axes of 0° (J0) and 45° (J45) between methods using intraclass correlation coefficient (ICC) and Bland-Altman analysis. They observed moderate-to-good agreement between SVS and retinoscopy, with a stronger correlation between spherical measurements than cylindrical measurements (ICC 0.924 and 0.686, respectively). The authors concluded that although SVS was designed to be used in screening programs, it would also be useful for measuring spherical refractive errors in uncooperative pediatric patients (See pages 56-62).

Today, the aim of cataract surgery is not only to remove the cataractous lens, but also to improve the patient's quality of life by providing good refractive outcomes and restoring vision to the pre-presbyopia level, and maintaining this level for the rest of the patient's life with no need for repeat intervention. Multifocal intraocular lenses (IOLs), which improve both distance and near visual acuity (VA), are still not ideal because although they provide a reasonable degree of spectacle-independence, they can lead to halo and glare, loss of contrast sensitivity, and poor visual results for intermediate-distance tasks. In their study titled "Comparison of Two Presbyopia-Correcting Trifocal Intraocular Lenses: A Prospective Study", Bayhan et al. compared the Acrya Trinova IOL (VSY) and Acrysof IQ PanOptix IOL (Alcon) in a total of 79 patients and found no difference between the groups in terms of postoperative monocular and binocular corrected/uncorrected VA at intermediate (60 cm) or near distances. However, the Trinova group was shown to have statistically significantly better VA at 80 cm compared to the PanOptix group ($p < 0.05$). In the Trinova group, the incidence of photic phenomena was found to be lower 1 month after surgery ($p < 0.05$), but the difference disappeared at 3 months. Nearly all patients (97.9% of those in the Trinova group and 96.7% of those in the PanOptix group) said they would recommend the same IOL to others (See pages 63-68).

Graves' disease (GD) is an autoimmune disease in which thyroid-specific autoantibody levels are elevated, causing diffuse enlargement of the thyroid gland and hyperthyroidism. The immune system is primarily controlled by regulatory T-cells (Tregs). The Forkhead box P3 (*FOXP3*) gene is located on the X chromosome and its protein product, FoxP3, is predominantly expressed as a transcription factor in Tregs. FoxP3 deficiency can lead to autoimmune diseases by impairing the immunosuppressive effect of Tregs. In their study titled "The Role of *FOXP3* Polymorphisms in Graves' Disease with or without Ophthalmopathy in a Turkish Population", Yaylacioğlu Tuncay et al. evaluated the frequency of the *FOXP3* single nucleotide polymorphisms (SNPs) rs3761547 (-3499 A/G), rs3761548 (-3279 C/A), and rs3761549 (-2383 C/T) in a Turkish sample of 100 GD patients with ophthalmopathy, 74 GD patients without ophthalmopathy, and 100 age- and sex-matched healthy individuals using the polymerase chain reaction-restriction fragment length polymorphism method. The rs3761548 AC and AA genotypes and the rs3761549 CT genotype were significantly more frequent in GD patients compared to the control group (all $p < 0.05$), while no difference was observed in terms of rs3761547 ($p > 0.05$ for all). However, none of the three SNPs was shown to be associated with the development of ophthalmopathy (See pages 69-75).

Although the pathogenesis of retinal vein occlusion (RVO) is still uncertain, it is known from comprehensive studies to be more common in patients with cardiovascular diseases such as arterial hypertension, hypercholesterolemia, atherosclerosis, and diabetes mellitus. In their study titled "Assessment of Serum Atherogenic Indices and Insulin Resistance in Retinal Vein Occlusion", Gönül and Eker compared plasma lipid profile (low-density lipoprotein cholesterol [LDL-C], high-density lipoprotein cholesterol [HDL-C], total cholesterol [TC] and triglycerides) and insulin resistance between 57 RVO patients and 63 healthy individuals. Although they were unable to demonstrate any differences in these parameters between the two groups, they found that atherogenic index values (TC/HDL-C, LDL-C/HDL-C, and non-HDL-C/HDL-C ratios) were higher in RVO patients ($p = 0.015$, $p = 0.036$, and $p = 0.015$, respectively). In addition, fasting insulin, plasma insulin, and homeostasis model assessment of insulin resistance (HOMA-IR) were found to be higher in RVO patients compared to the control group ($p = 0.003$, $p = 0.001$, and $p = 0.001$, respectively) (See pages 76-82).

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In their systematic review and meta-analysis study titled "Is Glaucoma a Two-Pressure-Related Optic Neuropathy?", Hoang et al. reviewed the literature published between 01/01/2010 and 31/12/2022 using the PubMed, Cochrane Eyes and Vision, and Google Scholar databases to examine the relationship between translaminal pressure difference (TLPD) and glaucoma. According to 8 articles selected from 471 results, it was shown that intraocular pressure was higher, cerebrospinal fluid pressure was lower, and TLPD was higher in the high-pressure and normal-pressure glaucoma groups compared to healthy groups (See pages 83-89).

The review by Şengör and Genççağa Atakan titled "Management of Contact Lenses and Visual Development in Pediatric Aphakia" discusses the types of contact lenses (CLs) used in pediatric aphakia after congenital cataract surgery, their application features, comparison with other optical systems, the features of amblyopia treatment in the presence of CLs, the results obtained with family compliance to CL wear and occlusion therapy in light of current studies (See pages 90-102).

Approximately 20% of facial burns involve periorbital and ocular involvement. Özbek and Kefeli present the management of a patient who underwent facial transplantation due to burns and subsequently developed cicatricial ectropion, lagophthalmos, and exposure keratopathy. The patient was started on a fortified topical antibiotic with a preliminary diagnosis of infectious keratitis. However, when culture yielded *Aspergillus fumigatus*, treatment was switched to topical and systemic amphotericin. Intracorneal voriconazole and amphotericin injections and lateral tarsorrhaphy and amniotic membrane transplantation were also performed. Due to a problem with epithelial healing in the inferior quadrant of the cornea after penetrating keratoplasty, the patient was fitted with a scleral contact lens for both therapeutic and visual rehabilitation purposes. She had perfect visual acuity and no complications in long-term follow-up (See pages 103-107).

Vasoproliferative tumors (VPT) are rare retinal lesions that can be primary or develop secondary to ocular diseases. In a case report by Abdel Jalil et al., a 55-year-old woman who presented with sarcoidosis-related intermediate uveitis, VPT, and exudative retinal detachment (ERD) was started on systemic and intravitreal steroid and systemic cyclosporine treatment and showed complete regression of the ERD. However, pars plana vitrectomy, cryotherapy, and laser photocoagulation were performed due to persistent severe vitreous opacities, low visual acuity, and ERD recurrence after 7 months. Two months after surgery, visual acuity in the left eye increased to 6/10, there was a significant regression of the VPT, and the ERD completely resolved (See pages 108-111).

Tumor necrosis factor- α antagonists (anti-TNF α) have been used in recent years for the treatment of dermatological, rheumatological, and gastroenterological diseases, as well as noninfectious uveitis. Değirmenci and Yalçındağ administered topical and sub-Tenon steroid therapy for intermediate uveitis to a 34-year-old man who presented with blurred vision and floaters in the right eye, but systemic cyclosporine was initiated when the inflammatory findings did not regress. Due to adverse effects, the cyclosporine was discontinued and adalimumab was started. The patient developed vitiligo in the lower jaw area in the 5th month of treatment and was evaluated for Vogt-Koyanagi-Harada syndrome, but no additional pathology was detected. The patient received tacrolimus (0.1%) pomade for the treatment of vitiligo, and no progression of the vitiligo lesion was observed at 3-month follow-up (See pages 112-115).

Merkel cells are deep epidermal cells that act as mechanoreceptors. They are necessary for light touch sensation and can exhibit malignant transformation. Merkel cell carcinoma (MCC) is a rare skin tumor that causes distant and local metastases and has a high mortality rate. It is usually seen on sun-exposed skin areas of older white people, presenting as painless, bluish-red, expanding nodules. Primary MCC of the eyelid is known to usually occur on the upper eyelid. In a case report by Özdemir et al., a patient who was diagnosed with MCC on the right thigh and received medical treatment three years earlier presented with numerous distant metastases and a firm, purplish, vascularized lesion on the upper eyelid, which was confirmed to be MCC by histopathological examination and imaging methods (See pages 116-119).

We hope that you read this issue with pleasure and benefit from it in clinical practice.

Respectfully on behalf of the Editorial Board,
Banu Bozkurt, MD
Editor-in-Chief