## AT A GLANCE

**2025 Issue 3 at a Glance:**

**Esteemed colleagues,**

In its third issue of 2025, the Turkish Journal of Ophthalmology features five original studies, two reviews, and two letters to the editor.

The prospective interventional study by Sachan et al. titled "Comparison of 20% Autologous Platelet-Rich Plasma Versus Conventional Treatment in Moderate to Severe Dry Eye Patients" included 40 individuals (80 eyes) with moderate to severe dry eye disease. The patients were randomized to the study and control groups (20 each). Those in the study group received 20% autologous platelet-rich plasma eye drops, while the control group received artificial tears as conventional treatment. At the end of three months, there was a significantly greater decrease in ocular surface disease index score in the study group than in the control group, and tear meniscus height, Schirmer test values, and tear breakup time were significantly improved in the study group. The post-treatment improvements in fluorescein staining and impression cytology scores were also significantly greater in the study group compared to the control group. The authors emphasized that autologous platelet-rich plasma therapy is safer and more effective than conventional treatments for moderate to severe symptomatic dry eye disease (See pages 112-119).

In their study titled "Comparative Analysis of Automated vs. Expert-Designed Machine Learning Models in Age-Related Macular Degeneration Detection and Classification", Durmaz Engin et al. aimed to compare the effectiveness of expert-designed machine learning models and code-free automatic machine learning (AutoML) models in detecting age-related macular degeneration (AMD) and distinguishing dry from wet AMD on optical coherence tomography images. The expert-designed model was developed by an AI expert using EfficientNet V2 architecture, while the AutoML model was created by an ophthalmologist using the LobeAI platform, which utilizes transfer learning with ResNet-50 V2. The study compared performance metrics by calculating sensitivity, specificity, accuracy, and F1 scores. The expert-designed model provided 99.67% overall accuracy in classifying all images, and F1 scores were calculated as 0.99 or higher in all binary classifications. On the other hand, while the AutoML model had 89.00% overall accuracy, its F1 scores ranged from 0.86 to 0.90 in binary classifications. The authors stated that although the AutoML model had acceptable performance in recognizing and classifying AMD cases, the expert-designed model had significantly superior performance, emphasizing the importance of the advanced neural network architectures and optimization processes used in expert-developed models (See pages 120-126).

In a cross-sectional study titled "Pattern of RNFL Damage in Early- and Late-Stage Primary Open-Angle Glaucoma Using the Disc Damage Likelihood Scale and Optical Coherence Tomography", UlAin et al. included 267 eyes of 135 patients aged 18 years and older with suspected or diagnosed glaucoma. After a comprehensive ocular examination, the Disc Damage Likelihood Scale was used for glaucoma staging, with disease severity rated in three zones: green, orange, and red. Retinal nerve fiber layer (RNFL) thickness was measured in the four quadrants using optical coherence tomography, and patterns of RNFL damage were analyzed according to the ISNT rule (inferior>superior>nasal>temporal) and compared between the three groups. The groups differed significantly in terms of mean, inferior, superior, and temporal RNFL thickness, while the difference in nasal RNFL was not significant. While the ISNT rule was found to be the most common pattern among the participants included in the study, progressive loss of this pattern was observed with increased disease severity (See pages 127-131).

In their study titled "Real-Life Effectiveness and Safety of Selective Laser Trabeculoplasty as Primary, Adjunctive, and Substitutive Therapy", Oliver-Gutierrez et al. aimed to evaluate the real-life outcomes of selective laser trabeculoplasty (SLT) in treatment-naïve patients compared to SLT used as adjunctive therapy (AT) and to investigate the potential of SLT to lower intraocular pressure (IOP) and reduce topical medication burden. Patients who had not previously undergone glaucoma surgery or laser treatment received SLT as primary therapy (PT), as AT, or as substitution therapy (ST). Success in the PT and AT groups was defined as ≥20% IOP reduction and IOP ≤21 mmHg in two consecutive follow-ups with the same or fewer drugs without additional glaucoma surgery (including repeat SLT), while success in the ST group was defined as the same or lower IOP with fewer topical medications. The study included a total of 120 eyes of 120 patients with an average follow-up of 32.7 months. The reduction in IOP was greater in the PT group than in the AT group at 24-36 months (22.1% vs.14.5%, p=0.039). Treatment nonresponse was reported in 28.6% of the PT group and 37.0% of the ST group. Success rates were higher in the PT group than in the AT group at 12, 24, and 36 months (47.1% vs. 69.0%, 31.4% vs. 38.8%, and 23.5% vs. 31.1%, respectively). In the ST group, the success rate was 34.2% at 12 months and increased to 38.3% at 24 months (See pages 132-140).

Üçgül et al. conducted a retrospective study titled "Gonioscopy-Assisted Transluminal Trabeculotomy versus Bent Ab Interno Needle Goniectomy in Patients with Open-Angle Glaucoma" comparing the efficacy and safety of gonioscopy-assisted transluminal trabeculotomy (GATT) and bent ab interno needle goniectomy (BANG) in patients with open-angle glaucoma. They evaluated 34 eyes that underwent GATT and 31 eyes that underwent BANG. The preoperative mean IOP was 32.9±6.1 mmHg in the GATT group and 31.8±5.4 mmHg in the BANG group. At the last postoperative follow-up, the mean IOP had decreased to 15.8±4.5 mmHg (51.9% reduction) in the GATT group and 17.9±5.7 mmHg (43.7% reduction) in the BANG group. The rate of complete surgical success was 88.2% for the GATT procedure and 61.3% for the BANG procedure. Early surgical failures were more common

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in the BANG group, while the BANG group had fewer early surgical failures and more late surgical failures. While the authors emphasized that GATT surgery provides a larger and more sustainable IOP reduction compared to BANG surgery and has higher surgical success rates, they stated that GATT is a more reliable option in the management of open-angle glaucoma (See pages 141-147).

In their review titled "Binocular Approaches in Amblyopia Treatment Based on Dichoptic Stimulation", Yabanoğlu and Taylan Şekeroğlu systematically examined the literature on dichoptic stimulation techniques that aim to improve binocular function in the treatment of strabismus. Based on various studies in the literature, they explained the basic principles of these treatment methods with emphasis on their results compared to traditional monocular treatment methods. This excellent review provides a comprehensive assessment of the integration of dichoptic treatment approaches into clinical practice and a guiding perspective on the future use of these methods (See pages 148-158).

The second review of the issue was penned by Aktaş et al. and is titled "Ab Interno Goniotomy/Goniectomy Techniques". Minimally invasive glaucoma surgeries (MIGS), which include techniques such as Kahook Dual Blade, BANG, GATT, OMNI, Trabectom, Streamline, and TrabEx+, have made significant advances in the treatment of glaucoma by reducing IOP and improving aqueous humor outflow. These innovative procedures offer effective alternatives to more invasive filtration surgeries by targeting structures such as the trabecular meshwork and Schlemm's canal. MIGS enhances the natural drainage pathways, leading to marked reductions in IOP and reduced dependence on glaucoma medications. Clinical studies show that these MIGS techniques are safe and effective, resulting in fewer complications than traditional surgeries such as trabeculectomy or tube shunt implantation. In addition to providing an overview of the MIGS techniques, this review successfully summarizes the extensive topic of these techniques' evolution, practical applications, and outcomes (See pages 159-170).

In the first letter to the editor in this issue, titled "A Promising Outcome of the Augmented Modified Hummelsheim Procedure in a Challenging Case of Inferior Rectus Hypoplasia", Priscilia and Bani summarized the treatment approach used for a 25-year-old female patient with inferior rectus hypoplasia, a rare pathology (See pages 171-173).

Kaynak et al. share another letter to the editor titled "Ptosis Repair by "PEANUTS" MMCR: "Pelin's Easy and Needle Up To Stretch" Müller's Muscle Conjunctival Resection Without the Putterman Clamp". The authors describe a surgical method that is based on the original Müller muscle-conjunctiva resection technique but uses a 21-gauge needle instead of the Putterman clamp and evaluate the outcomes of three ptosis patients operated using this technique (See pages 174-176).

Covering diagnostic and therapeutic approaches to various ocular pathologies from glaucoma to AMD, from ptosis to dry eye, we hope this issue will provide both scientific and practical guidance for our valued readers.

We would like to thank all the researchers who contributed to this issue. Through your contributions, we hope that each and every issue will feature even richer content.

**Respectfully on behalf of the Editorial Board,**
**Hakan Özdemir, MD**