TURKISH REPUBLICS OPHTHALMOLOGY SOCIETY &

CYPRUS TURKISH OPHTHALMOLOGY SOCIETY

INTERNATIONAL OPHTHALMOLOGY CONGRESS

MARCH 26-29, 2026

ACAPULCO HOTEL CONGRESS CENTER

KYRENIA – TURKISH REPUBLICS OF NORTHERN CYPRUS

ORAL PRESENTATIONS E-BOOK

PREPARED BY

PROF.DR. ZELIHA YAZAR

PROF.DR. GULIZAR SOYUGELEN

OP.DR. UMAY GUVENC

Türkçe

Sayın Üyemiz,
Kıbrıs Türk Tabipleri Birliği iş birliğiyle Türk Cumhuriyetleri Oftalmoloji Derneği (TCOD) ve Kıbrıs Türk Oftalmoloji Derneği (KTOD) tarafından düzenlenen Uluslararası TCOD & KTOD Ortak Oftalmoloji Kongresi 26–29 Mart 2026 tarihlerinde KKTC Girne Acapulco Oteli'nde gerçekleştirilecektir.
Bilimsel programa katkıda bulunmak üzere sunum başlığınızı 31 Ekim 2025 tarihine kadar aşağıdaki e-posta adreslerine göndermeniz rica olunur.

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Destekleriniz, KKTC'nin tanınmasına önemli bir katkı sağlayacaktır.

Saygılarımızla,
TCOD Merkez Yönetim Kurulu ve Kongre Düzenleme Kurulu

English

Dear Colleagues,
The International Ophthalmology Congress of the Turkish Republics Ophthalmology Society & the Cyprus Turkish Ophthalmology Societies, organized in collaboration with the Cyprus Turkish Medical Association, will be held on 26–29 March 2026 at Acapulco Hotel, Kyrenia, TRNC.
To contribute to the scientific program, please submit the title of your presentation by 31 October 2025 to the e-mail addresses below.
gulizardemirok@hotmail.com
oner.gelisken@gmail.com
We look forward to your participation.
TROS Board & Congress Organization Committee

Русский

Уважаемые коллеги,
Международный офтальмологический конгресс Общества офтальмологов тюркских республик и Кипрских турецких офтальмологических обществ, организованный в сотрудничестве с Союзом врачей Турецкой Республики Северного Кипра, состоится 26–29 марта 2026 года в отеле Acapulco, Кирения, ТРСК.
Для участия в научной программе просьба направить название Вашего доклада до 31 октября 2025 года на указанные адреса электронной почты.
gulizardemirok@hotmail.com
oner.gelisken@gmail.com
Мы с нетерпением ждем Вашего участия.
Правление ООТР и Организационный комитет

Kongre Bilgileri

Tarih: 26–29 Mart 2026
Mekan: Acapulco Hotel Congress Center, Girne (Kyrenia) — TRNC
Son Başvuru: 31 Ekim 2025

İletişim

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TCOD & KTOD — International Ophthalmology Congress

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ÖNSÖZ

Değerli Meslektaşlarımız,

Türk Cumhuriyetleri Oftalmoloji Derneği (TCOD) tarafından düzenlenen TCOD & KTOD Uluslararası Oftalmoloji Kongresi kapsamında sunulan bilimsel çalışmaların bir araya getirildiği bu elektronik kitapçığı sizlerle paylaşmaktan büyük bir memnuniyet duyuyoruz.

Bu e-kitapçıkta yer alan bildiriler; oftalmolojinin farklı alt alanlarında yürütülen güncel araştırmaları, klinik deneyimleri ve yenilikçi yaklaşımları yansıtmaktadır. Türk Cumhuriyetleri başta olmak üzere farklı coğrafyalardan katılan araştırmacıların katkılarıyla oluşan bu içerik, bilimsel çeşitliliği ve ortak üretim kültürünü güçlü bir şekilde ortaya koymaktadır.

Bu çalışma aynı zamanda, Türk dünyasının köklü tarihsel ve kültürel birlikteliğinin bilimsel alandaki yansıması niteliğinde olup, ortak bir bilgi üretim zemininin gelişmekte olduğunun somut bir göstergesidir. Bilimin evrensel dili aracılığıyla kurulan bu bağların, gelecekte daha güçlü akademik iş birliklerine zemin hazırlayacağına inanıyoruz.

Bilimsel bilginin paylaşımı ve kalıcı hale getirilmesi, mesleki gelişimin en önemli yapı taşlarından biridir. Bu kitapçıkta yer alan çalışmaların, yalnızca kongre süresince değil, sonrasında da araştırmacılar ve klinisyenler için değerli bir başvuru kaynağı olacağına inanıyoruz.

Bu yayının hazırlanmasına katkı sunan tüm araştırmacılara, bilimsel değerlendirme sürecinde görev alan kurul üyelerine ve emeği geçen herkese teşekkür ederiz.

Bu e-kitapçığın, oftalmoloji alanındaki bilgi birikimine katkı sağlamasını temennileriyle, tüm meslektaşlarımıza verimli okumalar dileriz.

Saygılarımızla,

Prof. Dr. Öner Gelişken

Türk Cumhuriyetleri Oftalmoloji Derneği Başkanı

PREFACE

Dear Colleagues,

It is our great pleasure to present this electronic booklet, which brings together the scientific contributions submitted within the scope of the TROS & CTOA International Ophthalmology Congress, organized by the Turkish Republics Ophthalmology Society (TCOD).

The abstracts included in this e-book reflect current research, clinical experience, and innovative approaches across various subspecialties of ophthalmology. With contributions from researchers representing diverse geographical regions—particularly the Turkic Republics—this collection highlights both scientific diversity and a strong culture of collaborative scholarship.

This work also represents a scientific reflection of the deep-rooted historical and cultural unity of the Turkic world, serving as a tangible indicator of the development of a shared platform for knowledge production. We believe that the connections established through the universal language of science will pave the way for stronger academic collaborations in the future.

The dissemination and preservation of scientific knowledge are among the cornerstones of professional development. We trust that the studies included in this booklet will serve as a valuable reference not only during the congress but also for researchers and clinicians in the years to come.

e would like to express our sincere gratitude to all researchers who contributed to this publication, as well as to the members of the scientific committees and everyone involved in the review and preparation process.

We hope that this e-book will contribute to the body of knowledge in ophthalmology and wish all our colleagues an insightful and productive reading experience.

Respectfully,

Prof. Dr. Öner Gelişken

President

Turkish Republics Ophthalmology Society (TCOD)

ABBREVIATIONS

AZ, AZE: AZERBAIJAN

KA, KZ, KAZ: KAZAKHSTAN

KG, KGZ: KYRGYZSTAN

RU: RUSSIAN FEDERATION

RB: REPUBLIC OF BASHKORTOSTAN

TR, TUR: TÜRKİYE, TURKIYE

TRNC: TURKISH REPUBLIC OF NORTHERN CYPRUS

TM, TKM: TURKMENISTAN

UZ, UZB: UZBEKISTAN

CRS: CATARACT & **R**EFRACTION **S**ESSION

CS: CORNEA **S**ESSION

FFA: **F**UNDUS **F**LORESCEIN **A**NGIOGRAPHY CASE DISCUSSION SESSION

GOS: GENERAL **O**PHTHALMOLOGY **S**ESSION

GS: GLAUCOMA **S**ESSION

NS: NEURO-OPHTHALMOLOGY **S**ESSION

OS: OCULOPLASTIC **S**ESSION

RS: RETINA **S**ESSION

SS: STRABISMUS **S**ESSION

VS: VITREORETINAL **S**ESSION

SCIENTIFIC PROGRAM

27. MARCH FRIDAY

HALL A

08:30 - 10:30	RETINA SESSION 1
08:30 - 09:00	**MINI CONFERENCES** **Moderators:** Gürsel Yılmaz (TR), Tural Galbinur (AZ)

RS-1 Mahmut Oğuz Ulusoy, Ayna Sarıyeva İsmayilov (TR): Comparison of Postoperative Outcomes in Macular Hole Patients After Classical vs. Temporal Inverted Flap Techniques Guided by OCT Angiography.

RS-2 Lukpan Orazbekov, Altynai Kairatqyzy (KZ): Artifical Intelligence in Predicting Functional Outcomes After Full-thickness Macular Hole Surgery

09:00 - 10:30	FREE PAPERS **Moderators:** Süleyman Kaynak (TR), Lukpan Orazbekov (KA), Zeliha Yazar (TR), Anar Abdullayev (AZ)

RS-3 Tuğçe Horozoğlu Ceran, Aydin Balci, Hamidu Hamisi Gobeka, Seray Yorukoglu Kayabas, Yasar Inkaya, Mustafa Dogan, Yigit Senol (TR): Retinal Microvascular Morphological Alterations in Alpha-1 Antitrypsin Deficiency: A Protective Mechanism or an Inflammatory Marker?

RS-4 Oğuzhan Karakaş, Gülce Gökgöz Özışık (TR): Comparison of Retinal and Choroidal Tissues Between Amblyopia Patients and the Normal Population with OCT and OCTA.

RS-5 Aylin Hüryol, Esra Türkseven Kumral, Ece Turan Vural (TR): Assessment of Macular Microvascular and Structural Changes Post Cataract Surgery in Type 2 Diabetes Mellitus Patients Without Diabetic Retinopathy Using Optical Coherence Tomography Angiography.

RS-6 Sanzhar Sambet, Gulnar K. Zhurgumbaeva (KZ): Improving the Surgery of Full-Thickness Macular Holes: A Comparison of 10 Surgical Techniques.

RS-7 Binhan Aslan Akbulut, Neşe Çetin Doğan (TR): Retrospective Analysis of The Clinical and Systemic Characteristics of Patients Presenting to Our Clinic with Retinal Artery Occlusion.

RS-8 Toykan Mahmut Yeliz, Mehmet Çıtırık (NC, TR): Macular Telangiectasia Type 2 Accompanied By Bilateral Drusen A Rare Case Presentation

RS-9 Alper Can Yılmaz (TR): Posterior Sub-Tenon Triamcinolone Injection in The Treatment of Postoperative Cystoid Macular Edema Due to Various Anterior Segment Surgeries.

RS-10 Sibel Coşkun Akdemir (TR): Comparison of Three Loading Doses of Bevacizumab and Ranibizumab for Diabetic Macular Edema.

RS-11 Sabriye Bolat, Selim Cevher (TR): Evaluation of the Effects of Intravitreal Bevacizumab Treatment on Retinal and Choroidal Structures in Neovascular Age-Related Macular Degeneration.

RS-12 Muzaffer Şahin, Mehmet Önen, Ece Özdemir Zeydanlı, Zeliha Yazar (TR): The Effects of Faricimab Treatment on Retinal Parameters in Patients with Macular Neovascularization.

RS-13 Ayna Sariyeva Ismayilov, Burcu Kahkeci, Mahmut Oğuz Ulusoy, Orkun Eray Terzi (NC, TR): Retinal Ischemic Perivascular Lesion in Pulmonary Embolism Patients: An OCT Angiography Study.

RS-14 İrfan Akalın (**AZ, TR)**: Our results with intraocular mitomycin C use in the treatment and prophylaxis of proliferative vitreoretinopathy in recurrent retinal detachments.

RS-15 Tuğba Çağlar, Memduh Kurt, Melih Kumaş, Mahmut Oğuz Ulusoy (TR): Evaluation of the Efficacy of Intravitreal Anti-VEGF as First-Line Treatment for Vitreous Hemorrhage.

RS-16 Oya Dönmez, **Süleyman Kaynak (TR)**: Fulminant Postoperative Endophthalmitis Due to Pseudomonas Stutzeri Following Uncomplicated Cataract Surgery

11:00 - 12:30	GLAUCOMA SESSION
11:00 - 11:20	**MINI CONFERENCES** **Moderators:** Huban Atilla (TR), Shirin Djamalova (UZ)

GS-1 Mehmet Talay Köylü, Özüm Yücel, Bağım Ayçin Çakır İnce, Duygu Akpınar, Esma Altuntaş Önen (TR): What do I do in cases with mild glaucoma and cataracts?

GS-2 Banu Solmaz (TR): When to treat glaucoma, and which type of surgery to perform?

11:20 - 12:30	**FREE PAPERS** **Moderators:** Pasha Musaev Galbinur (AZ), Fatih M.Mutlu (TR), Ali Aydın (TR), Leylo Maksudova Mashutovna (UZ)

GS-3 Merve Çetin, Atılım Armağan Demirtaş, Berna Yüce, Tuncay Kusbeci (TR): A Comparative Study of Soft-Preserved versus Preservative-Free Brimonidine on the Ocular Surface in Primary Open-Angle Glaucoma.

GS-4 Asya Aktuğlu, Atılım Armağan Demirtaş, Onur Seven, Özgecan Zengin, Burak Emre Doğan, Nurdan Talay, Tuncay Küsbeci (NC, TR): Use of the Save Sight Years Engine in Determining Target Intraocular Pressure in Glaucoma Follow-up: Comparison with Real-World Data.

GS-5 Mehmet Erol, Berna Yüce (TR): Evaluation of Anterior Sclera and Aqueous Outflow Pathways by Spectral-Domain OCT in Primary Open Angle Glaucoma, Ocular Hypertension and Healthy Eyes.

GS-6 Gökçe Akbaş Cevher, Atılım Armağan Demirtaş, Berna Yüce, Tuncay Küsbeci (TR): The Effect of Latanoprosten Bunod Monotherapy on Structural and Functional Ocular Parameters in Open-Angle Glaucoma Patients

GS-7 Narzullaev Dildora Uktamovna, Karimova Dinara Batirovna, Aslonova Zebiniso Anvarovna (UZ): BDNF as a biomarker of neurodegeneration in childhood glaucoma.

GS-8 Hogir Tiryaki, Hafize Gökben Ulutaş, Sami Yılmaz, Eda Nur Gönültaş Özkan (TR): Incidence and Risk Factors for Glaucoma Development and Progression After Corneal Transplantation.

GS-9 Gizem Genç, Raziye Dönmez Gün, Dilber Çelik Yaprak (TR): Evaluation of Anterior Chamber Depth Using Three Methods in Patients Clinically Suspected of Having a Narrow Anterior Chamber

GS-10 Serap Yıldız, Seyda Uğurlu Karadeniz (TR): Challenges in Glaucoma Diagnosis in Small Optic Discs: An OCT-Based Analysis.

GS-11 Özüm Yücel, Bağım Ayçin Çakır İnce (TR): One-Year Results of Phacoemulsification Combined GATT versus Kahook Dual Blade Goniotomy: A Comparative Study.

13:30 - 14:45	CATARACT & REFRACTION SESSION
13:30 - 14:45	**FREE PAPERS** **Moderators:** Yıldırım Beyazıt Usta (TR), A.E. Eshmambetov (KG), Nazım Zaynutdinov (UZ), Tünay Beton (TR)

CRS-1 Bora Deniz Argon, Fatma İrdem, Tülay Zeyin (TR, NC): From Incision to Macula: Early Corneal and Macular Changes After Phacoemulsification in Type 2 Diabetes.

CRS-2 Bora Deniz Argon, İbrahim Demirel (TR): Nelfilcon A vs Lotrafilcon A in Contact Lens–Assisted Accelerated Corneal Cross-Linking for Thin Keratoconus: A Retrospective Comparative Cohort Study.

CRS-3 Sevgi Tongal, Betül Dumlu, Ahmet Kırgız (TR): The Role of the Chord μ Parameter in the Diagnosis and Staging of Keratoconus.

CRS-4 Zeki Alkan, Hafize Gökben Ulutaş, Eda Nur Gönültaş Özkan, Büşra Erel, Sami Yılmaz (TR): Clinical Outcomes and Demarcation Line Depth After Accelerated Corneal Cross-Linking in Pediatric Progressive Keratoconus.

CRS-5 A.E. Eshmambetov, Kyalbek A. Usonov, U.M. Talantbek (KG): Experience With Placing IOLS on the Anterior Capsule In Case Of Posterior Capsule Ruptures.

CRS-6 Murat Öztürk, Fulya Duman (TR): Intraocular Lens Implantation Using Sutureless Scleral Fixation Technique in a Case of Bilateral Isolated Lens Coloboma and Its Outcomes.

CRS-7 Buse Bayram, Devrim Toslak, Muhammet Kazım Erol (NC, TR): Comparison of refraction results of IOL calculation formulas according to biometric parameters in cataract patients.

CRS-8 Duygu Topaktaş Emekli (TR): Expanding the clinical role of extended segment invisible bifocal spectacle lenses in pediatric ophthalmology.

CRS-9 Durdona Mirkhodjaeva (UZ): Clinical evaluation of postoperative visual recovery in patients with high myopia and amblyopia after phakic IOL implantation.

CRS-10 Kübra Erdoğan, Güvenç Toprak (TR): Effect of blue light–filtering versus UV-filtering intraocular lenses on sleep quality in unilateral and bilateral cataract surgery: A prospective Pittsburgh Sleep Quality Index Study.

27. MARCH FRIDAY

HALL B

08:30 - 10:30	**GENERAL OPHTHALMOLOGY SESSION**
08:30 - 09:15	**MINI CONFERENCES** **Moderators:** Rahman Mukhamadiyev, Hafiz Kahramanov (AZ)

GOS-1 Emin Alihuseynli (AZ): The capabilities and prospects of “OftalmoAsist” — the first artificial intelligence tool in the Azerbaijani language for clinical decision support.

GOS-2 Erol Dülger (NC, TR): Artificial Intelligence in Ophthalmology.

09:15 - 10:30	**FREE PAPERS :** **Moderators:** Mehmet Erzen (TR), Nedime Sahinoglu Keskek (TR), Firuzan Bardak (TR)

GOS-3 Malika M. Miralimova (UZ): Improving the system of ophthalmological care for preschool children in Tashkent.

GOS-4 Berkay Kızıltaş, İzzet Fidancı (TR): Quality and Reliability Analysis of Blepharoplasty Videos on YouTube.

GOS-5 Cahit Burke (NC): Evaluation of color vision in patients with posterior vitreous detachment.

GOS-6 Manzurakhon Rizayeva (UZ): Our experience on using of Plexr Plasma Technology in ophthalmology: Indications and Contraindications.

GOS-7 Ramazan Birgül (TR): Evaluation of the Usefulness of YouTube Videos on Gonioscopy-Assisted Transluminal Trabeculotomy Surgery.

GOS-8 Hamidu Hamisi Gobeka, İbrahim Ethem Ay, Mustafa Doğan, Tolgonai Bektur Kyzy, Tuğçe Horozoğlu (TR): Analysis of the retinochoroidal microcirculation and ultrastructure in ABO blood groups.

GOS-9 Aygerim Tuletova, Mukazhanova Ainagul, Adel M. Assykbayeva (KZ): Prevalence and Myopia control among schoolchildren in Kazakhstan: insights from Almaty and Astana.

GOS-10 Süleyman Demir, İsmail Cem Türkeş (TR): Evaluation of the Reliability and Readability of Responses Given by Artificial Intelligence Chatbots to Patient Questions on Retinal Detachment and Posterior Vitreous Detachment.

GOS-11 Yesim Gedik Oğuz, Esra Şahlı (TR): Comprehensive Clinical and Visual Profile of Children with Syndromic Visual Impairment: A Retrospective Observational Study.

GOS-12 Nedime Şahinoğlu Keşkek, Beyza Yıldır, Özge Sarıgül, Fuat Yavrum, Serhat Bahar (TR): Early Effects of Myopic Defocus Lenses with DIMS Technology on Myopia Progression and Choroidal Thickness.

11:00 - 12:30	YOUNG OPHTHALMOLOGISTS OKULOPLASTIC & STRABISMUS
11:00 - 11:20	**MINI CONFERENCES** **Moderators:** Aygerim Tuletova (KA)

SS-1 Seyhan B. Özkan (TR): That was not the anatomy I learned in strabismus.

SS-2 Birsen Gökyiğit (TR): Abnormal head positions: Reasons and solutions.

11:20 - 12:30	**FREE PAPER SESSION** **Moderators:** Seyhan B. Özkan (TR), Şerife Özhuy (TR), Mufazzal İminova (UZ), Zafer Hıdıroğlu (TR)

OS-1 Lenara Shoman, Sultankulova B.T., Abilova G.K. (KZ): Reconstructive Surgery Of The Upper Eyelid With Autologous Skin Grafting.

OS-2 Osman Özen, Menekşe İnal Özen, Firdevs Örnek (TR): Short-Term Corneal Topographic and Biometric Changes Following Periocular Botulinum Toxin A Injection in Patients with Blepharospasm and Hemifacial Spasm.

OS-3 Fikret Muhyi, Murat Oklar, Titap Yazıcıoğlu (NC, TR): Revision DCR: Our Surgical Success Rates in Nasolacrimal Duct Obstruction.

OS-4 Almaz Tultemirov (KZ): Features of The Treatment Of Acute Dacryocystitis.

OS-5 Sukbay Akbota, Banu Sultankulova **(KZ):** Reconstructive Surgery For Congenital Coloboma Of The Upper Eyelid: A Case Report

OS-6 Bayramova Pakiza (AZ): Vision Loss After Blepharoplasty Surgery.

OS-7 Gulstan Abilova, Banu Sultankulova (KZ): Invisible until the knife: meibomian calcifications in congenital ptosis.

SS-3 Rabia Akmaz, Umay Güvenç, Fatma Gül Yılmaz Çınar, Evin Şingar, Yasemin Topalak (TR): Evaluation of Surgical Outcomes in Intermittent Exotropia: Influence of Risk Factors and Surgical Technique.

SS-4 Cemil Yandaş, Umay Güvenç, Fatma Gül Yılmaz Çınar, Yasemin Topalak (NC, TR): Clinical Characteristics and Outcomes of Acute-Onset Esotropia: A Retrospective Analysis.

SS-5 Meliha Anur, Umay Güvenç, Fatma Gül Yılmaz Çınar, Yasemin Topalak, Evin Şingar (TR): Clinical Characteristics and Management of Patients with Congenital Superior Oblique Palsy: A RetrospectiveStudy.

SS-6 İbrahim Emir, Umay Güvenç, Fatma Gül Yılmaz Çınar, Evin Şingar, Yasemin Topalak (TR): Clinical Characteristics and Long-Term Outcomes of Brown Syndrome.

13:30 - 14:45	YOUNG OPTHALMOLOGISTS CORNEA SESSION
13:30 - 14:45	**FREE PAPERS :** **Moderators:** Emin Ali Hüseyinli (AZ), Erol Dülger (TR), Çizel Palas (TR), Nilay Akagün (TR)

CS-1 Kardelen Çamber, Evin Şingar, Ayşe Burcu, Ayşe Tüfekçi Balikçi, Züleyha Yalnız Akkaya, Selma Özbek Uzman (NC, TR): Changes in Corneal Aberrations, Corneal Topography, and Visual Acuity Values After Corneal Collagen-Cross Linking in Patients with Keratoconus.

CS-2 Liaisan A. Tagirova, Gyulli M. Kazakbaeva, Anastasiya V. Insapova, Karine K. Titoian, Iulia A. Rusakova (BA-RU): Advanced Accelerated Cross-Linking Approaches for Thin Keratoconus: Three-Year Comparative Clinical Outcomes.

CS-3 Çizel Palaz, Ayşe Burcu, Selma Uzman, Züleyha Yalnız Akkaya, Evin Şingar (NC, TR): Comparison of Topographic Outcomes In Patients Who Have Undergone DALK and PK Surgery.

CS-4 Umay Güvenç (TR): Corneal Tomographic Analysis in Hashimoto's Thyroiditis.

CS-5 Maralbaeva Albina Asylbekovna (KG): Effectiveness of Scleral Lenses

CS-6 Menekşe İnal Özen, Osman Özen, Firdevs Örnek (TR): Effects of Subepithelial Infiltrates Following Adenoviral Keratoconjunctivitis on Corneal Topography and Endothelium.

CS-7 Miray Karataş Seven, Atılım Armağan Demirtaş, Tuncay Küsbeci (TR): Correlation Between Corneal Tomographic Parameters and EDI-OCT Image Quality in Keratoconic and Healthy Patients.

CS-8 Aidana Iskakbayeva (KZ): Dry Eye Syndrome: When Punctal Plugs Help. A Clinical Case.

CS-9 Şergiye Bayramova Emir (AZ, TR): A Case Report of Oculofacial Rosacea Complicating to Corneal Infiltrates and Vascularisation.

CS-10 Nurbek A. Suleimenov, Suleimenov Marat Smagulovich (KZ): Unusual Cases of DSAEK.

CS-11 Sh. A. Serdarova, Hojamberdiyewa O.N. (TU): Medication correction after crosslinking surgery.

CS-12 Bağım Ayçin Çakır İnce (TR): Effect of Mitomycin-C on Ocular Surface and Tear Film Parameters After Photorefractive Keratectomy: A Prospective Clinical Study.

CS-13 Aruzhan Saduakas (KZ): Corneal Tear with Iris Prolapse: A Delayed Surgical Approach and Favourable Outcome

28. MARCH SATURDAY

HALL A

08:30 - 10:15	**OCULOPLASTIC SESSION**
08:30 - 08:50	**MINI CONFERENCES** **Moderators:** Hasan Cazımoğlu (TR), Derya Doğanay (TR)

OS-8 Gülizar Soyugelen, Umay Güvenç Fatma Akbaş Kocaoğlu (TR): Surgical Management of Canalicular Lacerations.

OS-9 Şerife Özhuy (NC): How can Ophthalmologists apply Botulinum Toxin for cosmetic aims?

08:50 - 10:15	**FREE PAPERS** **Moderators: Muyassar Karimova (UZ), Gülizar Soyugelen (TR), Hatice Arodezli (TR), Kyalbek A. Usonov**

OS-10 Hüseyin Enginsoy (NC): Entropion: Definition and Surgical Management

OS-11 Esra Kızıldağ Özbay, Sibel Yavuz, Şenol Sabancı (TR): Assessment of Meibography and Its Correlation with Dry Eye in Patients Undergoing Anterior Approach Blepharoptosis Surgery.

OS-12 Derya Doğanay (TR): Ocular Surface Neoplasms.

OS-13 A.E. Eshmambetov, Kadyrov T.T (KG): Glass and Plastic Eye Prosthetics in Kyrgyzstan.

OS-14 Doğa Akay Salihoğlu, Çisil Erkan Pota, Hatice Deniz İlhan (TR): A Five-Year Analysis of Pediatric Orbital Fractures: Evaluation of Clinical and Etiological Factors.

OS-15 M. Emin Aslancı (TR): Intraoperative Challenges in Revision Dacryocystorhinostomy for Recurrent Nasolacrimal Duct Obstruction.

OS-16 Çağrı İlhan, Duygu Ünal Kocabey, Serdar İlgüy, Orhan Kara, Mehmet Yılmaz (TR): Evaluation of Histopathological Changes In The Lacrimal Sac, Nasal Bone, And In Nasal Mucosa In Primary Acquired Nasolacrimal Duct Obstruction.

OS-17 Shoiraxon Aliyeva (UZ): Traditional or Plexr Laser Blepharoplasty, Which Has The Advantages?

OS-18 Mehmet Erzen (TR): Treatment of an Eyelid Tumor.

OS-19 Şenay Aşık (TR): Frontalis Muscle Advancement Combined with Levator Resection in Patients with Poor Levator Function.

OS-20 İlter İritaş, Ezgi Karataş (TR): Prospective Evaluation of Iridocorneal Angle and Anterior Segment Changes Following Lower Eyelid Blepharoplasty: Evidence of Transient, Reversible Ocular Biomechanical Alterations

OS-21 Hüseyin Atak, Yağmur Atak, Hatice Deniz İlhan (TR): The Impact Of Nasal Conditions On Patients With Epiphora: An Evaluation Of Those Undergoing Probing.

10:45 - 12:30	STRABISMUS & NEURO-OPHTHALMOLOGY SESSION
10:45 - 11:15	**MINI CONFERENCES** **Moderators:** Birsen Gökyiğit (TR), Kardelen Çamber (TR)

NS-1 Meltem Söylev Bajin (TR): Ophthalmologist and Pseudotumor Cerebri.

NS-2 Gölge Acaroğlu (TR): Diagnostic Pitfalls in Neuro-Ophthalmology

SS-7 Aygerim Tuletova (KZ): Clinical Features And Surgical Treatment In Monocular Elevation Deficit.

11:15 - 12:30	**FREE PAPERS** **Moderators:** Ahmet Nohutçu (TR), Meltem Söylev Bajin (TR), Gölge Acaroğlu (TR), Khalidjan Makhamadjanovich Kamilov (UZ)

SS-8 Mehmet Omer Kiristioglu, Meral Yıldız (TR): Surgical Success and Associated Factors in Horizontal Strabismus Cases Undergoing Single-Muscle Recession Surgery.

SS-9 Osman Kızılay, Gökhan Çelik, Birsen Gökyiğit (TR): Effects of Prematurity on Motility and Visual Acuity in the First Year and Later.

SS-10 Ahmet Nohutçu (TR): Duane Retraction Syndrome: A case presentation.

SS-11 Gulnaz Kassymbekova, Assiya Beysebaeva, Aigerim Tuletova (KZ): Surgical Outcomes Of Partially Accommodative Esotropia.

NS-3 Eşay Kıran Yenice, Pınar Nalçacioğlu Memiş, Çağatay Berke Erdaş (TR): Deep Learning Approach To Distinguish Papilledema, Non-Arteritic Anterior Ischemic Optic Neuropathy, And Healthy Eyes Based on OCT Images.

NS-4 Khikmatov Mirkamol Nuraliyevich, Agzamova Sayyora Saidaminovna (UZ): Treatment Effectiveness of Traumatic Optic Neuropathy Using Color and Magnetic Stimulation.

NS-5 Firuzan Bardak (NC): Mucocutaneous Lymph Node Syndrome And Pseudotumor Cerebri.

13:30 - 14:15	**CONFERENCES** **Moderators:** Sunay Duman (TR), Ömer Faruk Yılmaz (TR)

CRS-11 Mukharram Bikbov, Emin Usubov, Muller F. (BA-RU): New Protocol Of «Femtolaser Cataract Emulcification» Using Femto LDV Z8 Platform.

RS-17 Süleyman Kaynak (TR): We are in Despair About Myopia And Myopic Maculopathy.

CS-14 Sait Eğrilmez (TR): Dry Eye Disease: From Conventional Therapy to Novel Treatments.

14:15 - 15:45	**RETINA SESSION II**
14:15 - 14:45	**MINI CONFERENCES:** **Moderators:** Levent Karabaş (TR), Cengiz Aras (TR)

VS-1 Nilufer Kocak, Ali Devebacak, Hamit Ali (TR): Surgical Management of Diabetic Tractional Retinal Detachment: Timing, Techniques and Tamponade Selection.

VS-2 Tural Galbinur (AZ): Surgical Management of Diabetic Tractional Retinal Detachment.

VS-3 Cengiz Aras (TR): Preoperative Co-Application of Bevacizumab and Tissue Plasminogen Activator in Vitrectomy for Proliferative Diabetic Retinopathy.

14:45 - 15:45	**FREE PAPERS:** **Moderators:** Orhan Ateş (TR), Sevda Hummatova (AZ), Dudu Deniz Açar (TR), Mahmut Oğuz Ulusoy (TR)

VS-4 Cahit Burke, Ali Kutay Kılınç, Ali Aydın (NC, TR): Traumatic Epiretinal Membrane Release; A Review Of ERM And Spontaneous ERM Release Based On A Rare Case

VS-5 Dudu Deniz Acar, Nurten Ünlü (TR): Comparative Evaluation of Vitreoretinal Surgery and Scleral Buckling for Inferior Retinal Detachment with Retinal Tears.

VS-6 Dilara Babaeva, Rinat Fayzrakhmanov, Daloglanyan A.A. (RU): Surgical Treatment Of Retinal Detachment Complicated By PVR

VS-7 Burcu Kahkeci, Ayna Sarıyeva, İsmailov, Mahmut Oğuz Ulusoy (TR): Impact of Preoperative OCT Findings on Visual Acuity in Lamellar Macular Hole Patients Treated with Pars Plana Vitrectomy.

VS-8 Oya Donmez, **Suleyman Kaynak (TR)**: The Impact Of Silicone Oil On The Macula In Pseudophakic Eyes With Retinal Detachment.

VS-9 Hatice Kübra Çağlar, Sami Yılmaz, Büşra Yorulmaz, Hafize Gökben Ulutaş (TR): Evaluation of Metamorphopsia After Pars Plana Vitrectomy for Macula-Off Rhegmatogenous Retinal Detachment Using the M-Chart, Amsler Grid, and SD-OCT.

VS-10 Özge Sarıtaş, Yasin Toklu, Yelda Yıldız Taşçı, Zeliha Yazar (TR): Clinical Management of Subretinal Bands: A Case Series.

VS-11 Melike Balıkoğlu Yılmaz, Şule Barman Kakil, Gülsüm Yıldırım Ünal (TR): Morphological Changes In Patients Undergoing Surgery Due To Epiretinal Membrane.

VS-12 Şule Barman Kakil, Melike Balıkoğlu Yılmaz (TR): How Accurately Do AI Models Explain Epiretinal Membrane Surgery? A Comparative Evaluation of ChatGPT-5.1, Gemini 2.0, and DeepSeek R1.

VS-13 Melike Balıkoglu Yılmaz, Leyla Argun, Arda Emre Öztürk, Yusuf Ziya Güven, Erdinç Aydın, Mehmet Özgür Zengin, Raziye Yıldız (TR): The Role of Aqueous Humor Mediators in the Pathogenesis of Diabetic Retinopathy: A Comparative Analysis in Diabetic and Healthy Individuals.

16:15 - 16:45	**CONFERENCES** Moderators: Kıvanç Güngör (TR), Yazgül Abdıyeva (AZ)

CRS-12 Nazim Zaynutdinov (UZ): Immunological Aspects Of Local Cytokine Content In Patients With High Refractive Anomalies.

CRS-13 Bekir Sıtkı Aslan (TR): Personalized Cataract Surgery: Integrating Technology, Biomechanics, and Patient Biology for Superior Outcomes.

16:50 - 17:35	**Roche Uydu Sempozyumu: Retina Hastalıkları Tedavisinde Faricimabın Yeri** **Moderatör:** Levent Karabaş (TR) **Konuşmacılar:** Hakan Özdemir(TR), Figen Şermet(TR)
17:40 - 18:25	**FFA CLUB (Interactive Case Discussion Session)** **Moderators:** Gürsel Yılmaz (TR), Öner Gelişken (TR)

FFA-1 Gözde Karaca, Ecem Önder Tokuç, V. Levent Karabaş (TR): Unexpected Guest In The Depths.

FFA-2 Kıymet Kasapoğlu, Abdullah Ağın, Feyza Önder (TR): Granulomatous Traces And Silent Ischemia.

FFA-3 Kardelen Çamber, Cahit Burke (NC): Optic Disc Pit Maculopathy with Serous Macular Detachment: A Clinical Case Report

FFA-4 Utku Limon (TR): How Come Such a Mess?

FFA-5 Elif Özmen Usta, Cenap Mahmut Esenülkü, Mehtap Arslantürk Eren, Melike Gönül (TR): Blurred Vision In One Eye.

FFA-6 İzlem Palaz, Murat Oklar (NC, TR): A Cross-Continental Diagnostic Puzzle.

28. MARCH SATURDAY

HALL B

08:30 - 10:15	CORNEA SESSION :
08:30 - 09:00	**MINI CONFERENCES** **Moderators:** Ayşe Burcu (TR), Mustafa Taşeli (TR)

CS-15 H. Gökben Ulutaş (TR): Step by Step Guide to Descemet Membrane Endothelial Keratoplasty.

CS-16 Rakhman Omanovich Mukhamadiev, N.N. Ochilova (UZ): Xenoplasty for Pterygium.

CS-17 Züleyha Yalnız Akkaya (TR): Management of Posttraumatic Corneal Complications.

09:00 - 10:15	**FREE PAPERS** **Moderators:** Züleyha Akkaya (TR), Emin Usubov (RU), Kardelen Çamber (TR), Ayşe Köseoğulları (TR)

CS-18 Büşra Yorulmaz, Hafize Gökben Ulutaş, Hatice Kübra Çağlar (TR): Time Course of Endothelial Cell Loss Following Descemet Membrane Endothelial Keratoplasty.

CS-19 Emre Ertan Şahin, Miray Faiz Turan, Yusuf Koçluk, Burcu Kasım (TR): Evaluation of Corneal Endothelium with Specular Microscopy in Clear Grafts After Deep Anterior Lamellar Keratoplasty.

CS-20 Başar Basmacı, Çisil Erkan Pota (TR): Comparison of Visual Outcomes of Scleral Lens Application in Keratoconus Eyes with and without Keratoplasty.

CS-21 Ömer Faruk Sarıbatur, Hafize Gökben Ulutaş, Eda Nur Gönültaş Özkan, Ayşe Balıkçı Tüfekçi (TR): Evaluation of the Effectiveness of Amniotic Membrane Surface Reconstruction; Alone or in Combination with Keratoplasty in the Treatment of Corneal Melting.

CS-22 İlker Kocamış, Bedia Kesimal, Aysun Şanal Doğan (TR): A New Biological Approach to Ocular Surface Diseases: Topical Insulin Therapy

CS-23 Anar Abdullayev, Faik Oruçoğlu (AZ): Persistent Epithelium Defect.

CS-24 Aslonova Zebiniso Anvarovna, Sidikov Akmal Abdikahharovich, Gavrilova Tatyana Valeryevna, Akhmedjanova Aziza Zakirovna (UZ): Modern approaches to the treatment of corneal inflammatory processes.

CS-25 Eda Nur Gönültaş Özkan, Hafize Gökben Ulutaş, Mustafa Aksoy (TR): Evaluation of Age-Related Changes in Corneal Biomechanics: A Corvis-ST Analysis.

10:45 - 12:30	YOUNG OPHTHALMOLOGISTS POSTERIOR SEGMENT SESSION
10:45 - 11:05	**MINI CONFERENCES:** **Moderators:** Dilara Babaeva (RU), Cahit Burke (TR)

VS-14 Gürkan Erdoğan (TR): 27-Gauge Vitrectomy In Pediatric Cases.

VS-15 Eyyüp Karahan (TR): Surgical Approach to Massive Submacular Hemorrhages

11:05 - 12:30	**FREE PAPERS :** **Moderators:** Eyyüp Karahan (TR), Nilufer Kocak (TR), Lala Mammadova (AZ), Gülnara Sulaimanova (KG)

RS-18 İbrahim Edhem Yılmaz, Mustafa Berhuni, Celil Bilgehan (TR, NC): Structural Alterations in the Optic Nerve Head, Peripapillary Retina, and Choroid in Branch Retinal Vein Occlusion: Diagnostic Performance of Multimodal OCT Parameters

RS-19 Hatice Betül Kaya, Umay Güvenç (TR): The Role of TyG Index and Serum Lipid Levels as Metabolic Predictors in Diabetic Retinopathy.

RS-20 Dilber Keskinel (NC): Choroidal Thickness Changes in Diabetic Retinopathy Using Swept-Source OCT.

RS-21 Mukhit Kulmaganbetov (KZ, CH): Novel Assessment of Macular Health Using OAM-Coupled Polarized Light

RS-22 Lina Elmas, Fikret Ünal, Neşe Çetin Doğan (TR): Comparison of Optical Coherence Tomography and Optical Coherence Tomography Angiography Findings of Intravitreal Bevacizumab and Dexamethasone in Patients with Diabetic Macular Edema.

VS-16 Dastan Kyrykbayev, Zhurgumbayeva G.K. (KZ): From Posterior Capsule to Posterior Segment: The Vitreoretinal Surgeon's Role in Managing Cataract Complications.

NS-6 Kübra Küçükiba, Gözde Orman, Can Batın Avdan (TR, NC): Prediction of Visual Outcomes in Non-Arteritic Anterior Ischemic Optic Neuropathy: A Comprehensive Multivariable Analysis

VS-17 Rahat Shiloobekova (KG): Case presentation: Surgical management of recurrent hemophthalmos in a patient on maintenance hemodialysis.

RS-23 Daulet Berkimbayev Magzymuly (KZ): Hypertensive Retinopathy as a Complication of Pheochromocytoma: Case Report and Brief Literature Review.

GOS-13 Revane Hasanova (AZ): Analysis of Clinical Manifestations of Hereditary Eye Diseases Among Children in Azerbaijan.

RS-24 Ayşe Cengiz Ünal, Metin Eren Demirer, Muhammet Kazim Erol, Berna Doğan (TR): Evaluation of Persistent Avascular Retina Seen in Retinopathy of Prematurity Using Optical Coherence Tomography Angiography.

14:15 - 15:45	YOUNG OPHTHALMOLOGISTS GLAUCOMA & CATARACT & REFRACTION SESSION
14:15 - 14:45	**MINI CONFERENCES:** **Moderators:** Bekir Sıtkı Aslan (TR), Mehmet Talay Köylü (TR)

CRS-14 Esra Şahlı (TR): Approach to Patients with Low Vision.

CRS-15 Hafız Kahramanov, Pasha Musayev Galbinur, Kurban Ismayilov, Gabil Zulfiyev (AZ): Bimanual Stretching of Small Undilated Pupil During Cataract Surgery: A Simple but Right Choice? Clinical Cases.

CRS-16 Nilay Akagün (TR): What Should Be the True Goal in Myopia Control: Beyond Slowing Progression Toward Physiological Ocular Growth?

14:45 - 15:45	**FREE PAPERS:** **Moderators:** Esra Şahlı (TR), Umay Güvenç (TR), Ellina M. Iakupova (RU)

GS-12 Erdem Acar, Gülizar Soyugelen (TR): Secondary Seton Implantation: Efficacy and Clinical Outcomes.

CRS-17 Omurbek Zholdoshev (KG): Clinical Outcomes of High Astigmatism Correction with Smartsight Technology.

GS-13 Doğukan Tekneci, Gülizar Soyugelen, Güner Üney (TR): Effect of Glaucoma Stage on Gonioscopy-Assisted Transluminal Trabeculotomy (GATT) Outcomes.

GS-14 Duygu Akpınar, Mehmet Talay Köylü, Osman Melih Ceylan, Atilla Bayer (TR): Comparison of The Efficacy and Safety of Latanoprost 0.05% and Latanoprostene Bunod 0.024% in Primary Open-Angle Glaucoma.

GS-15 Naci Ertürk, Gülizar Soyugelen, Umay Güvenç (TR): Structure–Function Mismatch in Glaucoma Suspects: Diagnostic Contribution of Smaller Stimulus Size in Visual Field Testing — A Case Series.

GOS-14 Bikbov M.M., Ellina M. Iakupova (BA-RU): The Burden of Obesity. Obesity And Ophthalmological Parameters and Diseases in The Population of Southern Urals.

GS-16 İzel Cazımoğlu, Gülizar Soyugelen, Umay Güvenç, Ayşe Burcu, Nurten Ünlü (NC, TR): Assessment of Long-Term Clinical Outcomes in Pediatric Aphakic Glaucoma

CRS-18 Merve Bozkurt Gençer (TR): COVID-19 Pandemic and Myopia Progression: Our Clinical Findings.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS

CRS-1 Bora Deniz Argon, Fatma İrdem, Tülay Zeyin (TR, NC): From Incision to Macula: Early Corneal and Macular Changes After Phacoemulsification in Type 2 Diabetes.

CRS-2 Bora Deniz Argon, İbrahim Demirel (TR): Nelfilcon A vs Lotrafilcon A in Contact Lens–Assisted Accelerated Corneal Cross-Linking for Thin Keratoconus: A Retrospective Comparative Cohort Study.

CRS-3 Sevgi Tongal, Betül Dumlu, Ahmet Kırgız (TR): The Role of the Chord μ Parameter in the Diagnosis and Staging of Keratoconus.

CRS-4 Zeki Alkan, Hafize Gökben Ulutaş, Eda Nur Gönültaş Özkan, Büşra Erel, Sami Yılmaz (TR): Clinical Outcomes and Demarcation Line Depth After Accelerated Corneal Cross-Linking in Pediatric Progressive Keratoconus.

CRS-5 A.E. Eshmambetov, Kyalbek A. Usonov, U.M. Talantbek (KG): Experience with placing IOLS on the anterior capsule in case of posterior capsule ruptures.

CRS-6 Murat Öztürk, Fulya Duman (TR): Intraocular Lens Implantation Using Sutureless Scleral Fixation Technique in a Case of Bilateral Isolated Lens Coloboma and Its Outcomes.

CRS-7 Buse Bayram, Devrim Toslak, Muhammet Kazım Erol (NC, TR): Comparison of refraction results of IOL calculation formulas according to biometric parameters in cataract patients.

CRS-8 Duygu Topaktaş Emekli (TR): Expanding the clinical role of extended segment invisible bifocal spectacle lenses in pediatric ophthalmology.

CRS-9 Durdona Mirkhodjaeva (UZ): Clinical evaluation of postoperative visual recovery in patients with high myopia and amblyopia after phakic IOL implantation.

CRS-10 **Kübra Erdoğan, Güvenç Toprak (TR):** Effect of blue light–filtering versus UV-filtering intraocular lenses on sleep quality in unilateral and bilateral cataract surgery: A prospective Pittsburgh Sleep Quality Index Study.

CRS-11 **Mukharram Bikbov, Emin Usubov, Muller F. (BA-RU):** New protocol of «femtolaser cataract emulcification» using Femto LDV Z8 platform.

CRS-12 **Nazim Zaynutdinov (UZ):** Immunological aspects of local cytokine content in patients with high refractive anomalies.

CRS-13 **Bekir Sıtkı Aslan (TR)**: Personalized Cataract Surgery: Integrating Technology, Biomechanics, and Patient Biology for Superior Outcomes.

CRS-14 **Esra Şahlı (TR)**: Approach to Patients with Low Vision.

CRS-15 **Hafız Kahramanov, Pasha Musayev Galbinur, Kurban Ismayilov, Gabil Zulfiyev (AZ):** Bimanual Stretching of Small Undilated Pupil During Cataract Surgery: A Simple but Right Choice? Clinical Cases.

CRS-16 **Nilay Akagün (TR)**: What Should Be the True Goal in Myopia Control: Beyond Slowing Progression Toward Physiological Ocular Growth?

CRS-17 **Omurbek Zholdoshev (KG):** Clinical Outcomes of High Astigmatism Correction with Smartsight Technology.

CRS-18 **Merve Bozkurt Gençer (TR):** COVID-19 Pandemic and Myopia Progression: Our Clinical Findings.

CS: CORNEA SESSIONS ORAL PRESENTATIONS

CS-1 **Kardelen Çamber, Evin Şingar, Ayşe Burcu, Ayşe Tüfekçi Balikçi, Züleyha Yalnız Akkaya, Selma Özbek Uzman (NC, TR):** Changes in Corneal Aberrations, Corneal Topography, and Visual Acuity Values After Corneal Collagen-Cross Linking in Patients with Keratoconus.

CS-2 **Liaisan A. Tagirova, Gyulli M. Kazakbaeva, Anastasiya V. Insapova, Karine K. Titoian, Iulia A. Rusakova (BA-RU):** Advanced Accelerated Cross-Linking Approaches for Thin Keratoconus: Three-Year Comparative Clinical Outcomes.

CS-3 **Çizel Palaz, Ayşe Burcu, Selma Uzman, Züleyha Yalnız Akkaya, Evin Şingar (NC, TR):** Comparison of Topographic Outcomes İn Patients Who Have Undergone DALK and PK Surgery.

CS-4 **Umay Güvenç (TR):** Corneal Tomographic Analysis in Hashimoto's Thyroiditis.

CS-5 **Maralbaeva Albina Asylbekovna (KG):** Effectiveness of Scleral Lenses

CS-6 **Menekşe İnal Özen, Osman Özen, Firdevs Örnek (TR):** Effects of Subepithelial Infiltrates Following Adenoviral Keratoconjunctivitis on Corneal Topography and Endothelium.

CS-7 **Miray Karataş Seven, Atılım Armağan Demirtaş, Tuncay Küsbeci (TR):** Correlation Between Corneal Tomographic Parameters and EDI-OCT Image Quality in Keratoconic and Healthy Patients.

CS-8 **Aidana Iskakbayeva (KZ):** Dry Eye Syndrome: When Punctal Plugs Help. A Clinical Case.

CS-9 **Şergiye Bayramova Emir (AZ, TR):** A Case Report of Oculofacial Rosacea Complicating to Corneal Infiltrates and Vascularisation.

CS-10 **Nurbek A. Suleimenov, Suleimenov Marat Smagulovich (KZ):** Unusual Cases of DSAEK.

CS-11 **Sh. A. Serdarova, Hojamberdiyewa O.N. (TU):** Medication correction after crosslinking surgery.

CS-12 **Bağım Ayçin Çakır İnce (TR)**: Effect of Mitomycin-C on Ocular Surface and Tear Film Parameters After Photorefractive Keratectomy: A Prospective Clinical Study.

CS-13 **Aruzhan Saduakas (KZ):** Corneal Tear with Iris Prolapse: A Delayed Surgical Approach and Favourable Outcome

CS-14 **Sait Eğrilmez (TR)**: Dry Eye Disease: From Conventional Therapy to Novel Treatments.

CS-15 **H. Gökben Ulutaş (TR)**: Step by Step Guide to Descemet Membrane Endothelial Keratoplasty.

CS-16 **Rakhman Omanovich Mukhamadiev, N.N. Ochilova (UZ):** Xenoplasty for Pterygium

CS-17 **Züleyha Yalnız Akkaya (TR)**: Management of Posttraumatic Corneal Complications.

CS-18 **Büşra Yorulmaz, Hafize Gökben Ulutaş, Hatice Kübra Çağlar (TR)**: Time Course of Endothelial Cell Loss Following Descemet Membrane Endothelial Keratoplasty.

CS-19 **Emre Ertan Şahin, Miray Faiz Turan, Yusuf Koçluk, Burcu Kasım (TR)**: Evaluation of Corneal Endothelium with Specular Microscopy in Clear Grafts After Deep Anterior Lamellar Keratoplasty.

CS-20 **Başar Basmacı, Çisil Erkan Pota (TR)**: Comparison of Visual Outcomes of Scleral Lens Application in Keratoconus Eyes with and without Keratoplasty.

CS-21 **Ömer Faruk Sarıbatur, Hafize Gökben Ulutaş, Eda Nur Gönültaş Özkan, Ayşe Balıkçı Tüfekçi (TR)**: Evaluation of the Effectiveness of Amniotic Membrane Surface Reconstruction; Alone or in Combination with Keratoplasty in the Treatment of Corneal Melting.

CS-22 **İlker Kocamış, Bedia Kesimal, Aysun Şanal Doğan (TR):** A New Biological Approach to Ocular Surface Diseases: Topical Insulin Therapy

CS-23 **Anar Abdullayev, Faik Oruçoğlu (AZ):** Persistent epithelium defect.

CS-24 **Aslonova Zebiniso Anvarovna, Sidikov Akmal Abdikahharovich, Gavrilova Tatyana Valeryevna, Akhmedjanova Aziza Zakirovna (UZ):** Modern approaches to the treatment of corneal inflammatory processes.

CS-25 **Eda Nur Gönültaş Özkan, Hafize Gökben Ulutaş, Mustafa Aksoy (TR)**: Evaluation of Age-Related Changes in Corneal Biomechanics: A Corvis-ST Analysis.

FFA: FUNDUS FLORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-1 **Gözde Karaca, Ecem Önder Tokuç, V. Levent Karabaş (TR)**: Unexpected guest in the depths.

FFA-2 **Kıymet Kasapoğlu, Abdullah Ağın, Feyza Önder (TR)**: Granulomatous traces and silent ischemia.

FFA-3 **Kardelen Çamber, Cahit Burke (NC)**: Optic Disc Pit Maculopathy with Serous Macular Detachment: A Clinical Case Report

FFA-4 **Utku Limon (TR)**: How Come Such a Mess?

FFA-5 **Elif Özmen Usta, Cenap Mahmut Esenülkü, Mehtap Arslantürk Eren, Melike Gönül (TR):** Blurred vision in one eye.

FFA-6 **İzlem Palaz, Murat Oklar (NC, TR):** A Cross-Continental Diagnostic Puzzle

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS

GOS-1 **Emin Alihuseynli (AZ):** The capabilities and prospects of "OftalmoAsist" — the first artificial intelligence tool in the Azerbaijani language for clinical decision support.

GOS-2 **Erol Dülger (NC, TR):** Artificial Intelligence in Ophthalmology.

GOS-3 **Malika M. Miralimova (UZ):** Improving the system of ophthalmological care for preschool children in Tashkent.

GOS-4 **Berkay Kızıltaş, İzzet Fidancı (TR):** Quality and Reliability Analysis of Blepharoplasty Videos on YouTube.

GOS-5 **Cahit Burke (NC)**: Evaluation of color vision in patients with posterior vitreous detachment.

GOS-6 **Manzurakhon Rizayeva (UZ):** Our experience on using of Plexr Plasma Technology in ophthalmology: Indications and Contraindications.

GOS-7 **Ramazan Birgül (TR)**: Evaluation of the Usefulness of YouTube Videos on Gonioscopy-Assisted Transluminal Trabeculotomy Surgery.

GOS-8 **Hamidu Hamisi Gobeka, İbrahim Ethem Ay, Mustafa Doğan, Tolgonai Bektur Kyzy, Tuğçe Horozoğlu (TR):** Analysis of the retinochoroidal microcirculation and ultrastructure in ABO blood groups.

GOS-9 **Aygerim Tuletova, Mukazhanova Ainagul, Adel M. Assykbayeva (KZ):** Prevalence and Myopia control among schoolchildren in Kazakhstan: insights from Almaty and Astana.

GOS-10 **Süleyman Demir, İsmail Cem Türkeş (TR):** Evaluation of the Reliability and Readability of Responses Given by Artificial Intelligence Chatbots to Patient Questions on Retinal Detachment and Posterior Vitreous Detachment.

GOS-11 **Yesim Gedik Oğuz, Esra Şahlı (TR)**: Comprehensive Clinical and Visual Profile of Children with Syndromic Visual Impairment: A Retrospective Observational Study.

GOS-12 **Nedime Şahinoğlu Keşkek, Beyza Yıldır, Özge Sarıgül, Fuat Yavrum, Serhat Bahar (TR):** Early Effects of Myopic Defocus Lenses with DIMS Technology on Myopia Progression and Choroidal Thickness

GOS-13 **Revane Hasanova (AZ):** Analysis of Clinical Manifestations of Hereditary Eye Diseases Among Children in Azerbaijan.

GOS-14 **Bikbov M.M., Ellina M. Iakupova (BA-RU)**: The Burden of Obesity. Obesity And Ophthalmological Parameters and Diseases in The Population of Southern Urals.

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS

GS-1 **Mehmet Talay Köylü, Özüm Yücel, Bağım Ayçin Çakır İnce, Duygu Akpınar, Esma Altuntaş Önen (TR)**: What do I do in cases with mild glaucoma and cataracts?

GS-2 **Banu Solmaz (TR)**: When to treat glaucoma, and which type of surgery to perform?

GS-3 **Merve Çetin, Atılım Armağan Demirtaş, Berna Yüce, Tuncay Kusbeci (TR)**: A Comparative Study of Soft-Preserved versus Preservative-Free Brimonidine on the Ocular Surface in Primary Open-Angle Glaucoma.

GS-4 **Asya Aktuğlu, Atılım Armağan Demirtaş, Onur Seven, Özgecan Zengin, Burak Emre Doğan, Nurdan Talay, Tuncay Küsbeci (NC, TR):** Use of the Save Sight Years Engine in Determining Target Intraocular Pressure in Glaucoma Follow-up: Comparison with Real-World Data.

GS-5 **Mehmet Erol, Berna Yüce (TR)**: Evaluation of Anterior Sclera and Aqueous Outflow Pathways by Spectral-Domain OCT in Primary Open Angle Glaucoma, Ocular Hypertension and Healthy Eyes.

GS-6 **Gökçe Akbaş Cevher, Atılım Armağan Demirtaş, Berna Yüce, Tuncay Küsbeci (TR)**: The Effect of Latanoprosten Bunod Monotherapy on Structural and Functional Ocular Parameters in Open-Angle Glaucoma Patients

GS-7 **Narzullaev Dildora Uktamovna, Karimova Dinara Batirovna, Aslonova Zebiniso Anvarovna (UZ):** BDNF as a biomarker of neurodegeneration in childhood glaucoma.

GS-8 **Hogir Tiryaki, Hafize Gökben Ulutaş, Sami Yılmaz, Eda Nur Gönültaş Özkan (TR)**: Incidence and Risk Factors for Glaucoma Development and Progression After Corneal Transplantation.

GS-9 **Gizem Genç, Raziye Dönmez Gün, Dilber Çelik Yaprak (TR)**: Evaluation of Anterior Chamber Depth Using Three Methods in Patients Clinically Suspected of Having a Narrow Anterior Chamber

GS-10 **Serap Yıldız, Seyda Uğurlu Karadeniz (TR)**: Challenges in Glaucoma Diagnosis in Small Optic Discs: An OCT-Based Analysis.

GS-11 **Özüm Yücel, Bağım Ayçin Çakır İnce (TR)**: One-Year Results of Phacoemulsification Combined GATT versus Kahook Dual Blade Goniotomy: A Comparative Study.

GS-12 **Erdem Acar, Gülizar Soyugelen (TR):** Secondary Seton Implantation: Efficacy and Clinical Outcomes.

GS-13 **Doğukan Tekneci, Gülizar Soyugelen, Güner Üney (TR):** Effect of Glaucoma Stage on Gonioscopy-Assisted Transluminal Trabeculotomy (GATT) Outcomes.

GS-14 **Duygu Akpınar, Mehmet Talay Köylü, Osman Melih Ceylan, Atilla Bayer (TR):** Comparison of The Efficacy and Safety of Latanoprost 0.05% and Latanoprostene Bunod 0.024% in Primary Open-Angle Glaucoma.

GS-15 **Naci Ertürk, Gülizar Soyugelen, Umay Güvenç (TR):** Structure–Function Mismatch in Glaucoma Suspects: Diagnostic Contribution of Smaller Stimulus Size in Visual Field Testing — A Case Series.

GS-16 **İzel Cazımoğlu, Gülizar Soyugelen, Umay Güvenç, Ayşe Burcu, Nurten Ünlü (NC, TR):** Assessment of Long-Term Clinical Outcomes in Pediatric Aphakic Glaucoma

NS: NEURO-OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS

NS-1 **Meltem Söylev Bajin (TR)**: Ophthalmologist and pseudotumor cerebri.

NS-2 **Gölge Acaroğlu (TR)**: Diagnostic Pitfalls in Neuro-Ophthalmology

NS-3 **Eşay Kıran Yenice, Pınar Nalçacioğlu Memiş, Çağatay Berke Erdaş (TR)**: Deep learning approach to distinguish papilledema, Non-Arteritic Anterior Ischemic Optic Neuropathy, and healthy eyes based on OCT images.

NS-4 **Khikmatov Mirkamol Nuraliyevich, Agzamova Sayyora Saidaminovna (UZ):** Treatment Effectiveness of Traumatic Optic Neuropathy Using Color and Magnetic Stimulation.

NS-5 **Firuzan Bardak (NC):** Mucocutaneous lymph node syndrome and pseudotumor cerebri.

NS-6 **Kübra Küçükiba, Gözde Orman, Can Batın Avdan (TR, NC):** Prediction of Visual Outcomes in Non-Arteritic Anterior Ischemic Optic Neuropathy: A Comprehensive Multivariable Analysis

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OS-2 **Osman Özen, Menekşe İnal Özen, Firdevs Örnek (TR):** Short-Term Corneal Topographic and Biometric Changes Following Periocular Botulinum Toxin A Injection in Patients with Blepharospasm and Hemifacial Spasm.

OS-3 **Fikret Muhyi, Murat Oklar, Titap Yazıcıoğlu (NC, TR):** Revision DCR: Our Surgical Success Rates in Nasolacrimal Duct Obstruction.

OS-4 **Almaz Tultemirov (KZ):** Features of the treatment of acute dacryocystitis.

OS-5 Sukbay Akbota, Banu Sultankulova (KZ): Reconstructive surgery for congenital coloboma of the upper eyelid: A case report

OS-6 Bayramova Pakiza (AZ): Vision Loss After Blepharoplasty Surgery.

OS-7 Gulstan Abilova, Banu Sultankulova (KZ): Invisible until the knife: meibomian calcifications in congenital ptosis.

OS-8 Gülizar Soyugelen, Umay Güvenç Fatma Akbaş Kocaoğlu (TR): Surgical Management of Canalicular Lacerations.

OS-9 Şerife Özhuy (**NC**): How can Ophthalmologists apply Botulinum Toxin for cosmetic aims?

OS-10 Hüseyin Enginsoy (NC): Entropion: Definition and Surgical Management

OS-11 Esra Kızıldağ Özbay, Sibel Yavuz, Şenol Sabancı (TR): Assessment of Meibography and Its Correlation with Dry Eye in Patients Undergoing Anterior Approach Blepharoptosis Surgery.

OS-12 Derya Doğanay (TR): Ocular Surface Neoplasms.

OS-13 A.E. Eshmambetov, Kadyrov T.T (KG): Glass and plastic eye prosthetics in Kyrgyzstan.

OS-14 Doğa Akay Salihoğlu, Çisil Erkan Pota, Hatice Deniz İlhan (TR): A Five-Year Analysis of Pediatric Orbital Fractures: Evaluation of Clinical and Etiological Factors.

OS-15 M. Emin Aslancı (TR): Intraoperative Challenges in Revision Dacryocystorhinostomy for Recurrent Nasolacrimal Duct Obstruction.

OS-16 Çağrı İlhan, Duygu Ünal Kocabey, Serdar İlgüy, Orhan Kara, Mehmet Yılmaz (TR): Evaluation of histopathological changes in the lacrimal sac, nasal bone, and in nasal mucosa in primary acquired Nasolacrimal duct obstruction.

OS-17 Shoiraxon Aliyeva (UZ): Traditional or plexr laser blepharoplasty, which has the advantages?

OS-18 Mehmet Erzen (TR): Treatment of an eyelid tumor.

OS-19 Şenay Aşık (TR): Frontalis Muscle Advancement Combined with Levator Resection in Patients with Poor Levator Function.

OS-20 İlter İritaş, Ezgi Karataş (TR): Prospective Evaluation of Iridocorneal Angle and Anterior Segment Changes Following Lower Eyelid Blepharoplasty: Evidence of Transient, Reversible Ocular Biomechanical Alterations

OS-21 Hüseyin Atak, Yağmur Atak, Hatice Deniz İlhan (TR): The impact of nasal conditions on patients with epiphora: an evaluation of those undergoing probing.

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RS-2 **Lukpan Orazbekov, Altynai Kairatqyzy (KZ):** Artifical Intelligence in Predicting Functional Outcomes After Full-thickness Macular Hole Surgery

RS-3 **Tuğçe Horozoğlu Ceran, Aydin Balci, Hamidu Hamisi Gobeka, Seray Yorukoglu Kayabas, Yasar Inkaya, Mustafa Dogan, Yigit Senol (TR)**: Retinal Microvascular Morphological Alterations in Alpha-1 Antitrypsin Deficiency: A Protective Mechanism or an Inflammatory Marker?

RS-4 **Oğuzhan Karakaş, Gülce Gökgöz Özışık (TR)**: Comparison of Retinal and Choroidal Tissues Between Amblyopia Patients and the Normal Population with OCT and OCTA.

RS-5 **Aylin Hüryol, Esra Türkseven Kumral, Ece Turan Vural (TR)**: Assessment of Macular Microvascular and Structural Changes Post Cataract Surgery in Type 2 Diabetes Mellitus Patients Without Diabetic Retinopathy Using Optical Coherence Tomography Angiography.

RS-6 **Sanzhar Sambet, Gulnar K. Zhurgumbaeva (KZ):** Improving the Surgery of Full-Thickness Macular Holes: A Comparison of 10 Surgical Techniques.

RS-7 **Binhan Aslan Akbulut, Neşe Çetin Doğan (TR)**: Retrospective Analysis of The Clinical and Systemic Characteristics of Patients Presenting to Our Clinic with Retinal Artery Occlusion.

RS-8 **Toykan Mahmut Yeliz, Mehmet Çıtırık (NC, TR)**: Macular Telangiectasia Type 2 Accompanied By Bilateral Drusen A Rare Case Presentation

RS-9 **Alper Can Yılmaz (TR)**: Posterior Sub-Tenon Triamcinolone Injection in The Treatment of Postoperative Cystoid Macular Edema Due to Various Anterior Segment Surgeries.

RS-10 **Sibel Coşkun Akdemir (TR)**: Comparison of Three Loading Doses of Bevacizumab and Ranibizumab for Diabetic Macular Edema.

RS-11 **Sabriye Bolat, Selim Cevher (TR)**: Evaluation of the Effects of Intravitreal Bevacizumab Treatment on Retinal and Choroidal Structures in Neovascular Age-Related Macular Degeneration.

RS-12 **Muzaffer Şahin, Mehmet Önen, Ece Özdemir Zeydanlı, Zeliha Yazar (TR)**: The Effects of Faricimab Treatment on Retinal Parameters in Patients with Macular Neovascularization.

RS-13 **Ayna Sariyeva Ismayilov, Burcu Kahkeci, Mahmut Oğuz Ulusoy, Orkun Eray Terzi (NC, TR):** Retinal Ischemic Perivascular Lesion in Pulmonary Embolism Patients: An OCT Angiography Study.

RS-14 **İrfan Akalın** (**AZ, TR)**: Our results with intraocular mitomycin C use in the treatment and prophylaxis of proliferative vitreoretinopathy in recurrent retinal detachments.

RS-15 **Tuğba Çağlar, Memduh Kurt, Melih Kumaş, Mahmut Oğuz Ulusoy (TR)**: Evaluation of the Efficacy of Intravitreal Anti-VEGF as First-Line Treatment for Vitreous Hemorrhage.

RS-16 **Oya Dönmez**, **Süleyman Kaynak (TR)**: Fulminant Postoperative Endophthalmitis Due to Pseudomonas Stutzeri Following Uncomplicated Cataract Surgery

RS-17 **Süleyman Kaynak (TR)**: We are in despair about myopia and myopic maculopathy.

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RS-23 **Daulet Berkimbayev Magzymuly (KZ):** Hypertensive Retinopathy as a Complication of Pheochromocytoma: Case Report and Brief Literature Review.

RS-24 **Ayşe Cengiz Ünal, Metin Eren Demirer, Muhammet Kazim Erol, Berna Doğan (TR):** Evaluation of Persistent Avascular Retina Seen in Retinopathy of Prematurity Using Optical Coherence Tomography Angiography.

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SS-2 **Birsen Gökyiğit (TR)**: Abnormal head positions: Reasons and solutions.

SS-3 **Rabia Akmaz, Umay Güvenç, Fatma Gül Yılmaz Çınar, Evin Şingar, Yasemin Topalak (TR):** Evaluation of Surgical Outcomes in Intermittent Exotropia: Influence of Risk Factors and Surgical Technique.

SS-4 **Cemil Yandaş, Umay Güvenç, Fatma Gül Yılmaz Çınar, Yasemin Topalak (NC, TR):** Clinical Characteristics and Outcomes of Acute-Onset Esotropia: A Retrospective Analysis.

SS-5 **Meliha Anur, Umay Güvenç, Fatma Gül Yılmaz Çınar, Yasemin Topalak, Evin Şingar (TR):** Clinical Characteristics and Management of Patients with Congenital Superior Oblique Palsy: A RetrospectiveStudy.

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SS-9 **Osman Kızılay**, **Gökhan Çelik, Birsen Gökyiğit (TR)**: Effects of Prematurity on Motility and Visual Acuity in the First Year and Later.

SS-10 **Ahmet Nohutçu (TR)**: Duane Retraction Syndrome: A case presentation.

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VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS

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VS-2 **Tural Galbinur (AZ):** Surgical Management of Diabetic Tractional Retinal Detachment.

VS-3 **Cengiz Aras (TR)**: Preoperative Co-Application of Bevacizumab and Tissue Plasminogen Activator in Vitrectomy for Proliferative Diabetic Retinopathy.

VS-4 **Cahit Burke, Ali Kutay Kılınç, Ali Aydın (NC, TR):** Traumatic epiretinal membrane release; A review of ERM and spontaneous ERM release based on a rare case

VS-5 **Dudu Deniz Acar, Nurten Ünlü (TR)**: Comparative Evaluation of Vitreoretinal Surgery and Scleral Buckling for Inferior Retinal Detachment with Retinal Tears.

VS-6 **Dilara Babaeva**, **Rinat Fayzrakhmanov, Daloglanyan A.A. (RU):** Surgical treatment of retinal detachment complicated by PVR

VS-7 **Burcu Kahkeci, Ayna Sarıyeva, İsmailov, Mahmut Oğuz Ulusoy (TR):** Impact of Preoperative OCT Findings on Visual Acuity in Lamellar Macular Hole Patients Treated with Pars Plana Vitrectomy.

VS-8 **Oya Donmez**, **Suleyman Kaynak (TR)**: The impact of silicone oil on the macula in pseudophakic eyes with retinal detachment.

VS-9 **Hatice Kübra Çağlar, Sami Yılmaz, Büşra Yorulmaz, Hafize Gökben Ulutaş (TR)**: Evaluation of Metamorphopsia After Pars Plana Vitrectomy for Macula-Off Rhegmatogenous Retinal Detachment Using the M-Chart, Amsler Grid, and SD-OCT.

VS-10 **Özge Sarıtaş, Yasin Toklu, Yelda Yıldız Taşçı, Zeliha Yazar (TR)**: Clinical Management of Subretinal Bands: A Case Series.

VS-11 **Melike Balıkoğlu Yılmaz, Şule Barman Kakil, Gülsüm Yıldırım Ünal (TR)**: Morphological changes in patients undergoing surgery due to epiretinal membrane.

VS-12 **Şule Barman Kakil, Melike Balıkoğlu Yılmaz (TR)**: How Accurately Do AI Models Explain Epiretinal Membrane Surgery? A Comparative Evaluation of ChatGPT-5.1, Gemini 2.0, and DeepSeek R1.

VS-13 **Melike Balıkoglu Yılmaz, Leyla Argun, Arda Emre Öztürk, Yusuf Ziya Güven, Erdinç Aydın, Mehmet Özgür Zengin, Raziye Yıldız (TR):** The Role of Aqueous Humor Mediators in the Pathogenesis of Diabetic Retinopathy: A Comparative Analysis in Diabetic and Healthy Individuals.

VS-14 **Gürkan Erdoğan (TR)**: 27-Gauge vitrectomy in pediatric cases.

VS-15 **Eyyüp Karahan (TR)**: Surgical Approach to Massive Submacular Hemorrhages

VS-16 **Dastan Kyrykbayev, Zhurgumbayeva G.K. (KZ):** From Posterior Capsule to Posterior Segment: The Vitreoretinal Surgeon's Role in Managing Cataract Complications.

VS-17 **Rahat Shiloobekova (KG):** Case presentation: Surgical management of recurrent hemophthalmos in a patient on maintenance hemodialysis.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-1

FROM INCISION TO MACULA: EARLY CORNEAL AND MACULAR CHANGES AFTER PHACOEMULSIFICATION IN TYPE 2 DIABETES

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Abstract Text:

Background: Type 2 diabetes mellitus (T2DM) may increase susceptibility to postoperative corneal and retinal changes after phacoemulsification. We evaluated early, integrated changes from corneal endothelium to macula using routine specular microscopy and a single, available optical coherence tomography/optical coherence tomography angiography (OCT/OCTA) platform.

Methods: Prospective, observational, minimal-risk study including 24 T2DM patients undergoing standard phacoemulsification. Data were recorded at baseline (≤14 days preoperative), postoperative week 1, and month 1. Primary outcome was endothelial cell density (ECD) change from baseline to month 1. Secondary outcomes included central corneal thickness (CCT), anterior chamber depth/volume (ACD/ACV), angle metrics (AOD500 and TISA500, nasal/temporal), macular central retinal thickness and ganglion cell–inner plexiform layer (GC-IPL) metrics, and anterior-segment OCTA vascular densities (iris global VD; nasal/temporal limbal VD).

Results: Twenty-four patients were analyzed (baseline macular thickness available in 23). Mean ECD decreased from 2470±375 to 2255±334 cells/mm² at month 1 (mean change −215; 95% CI −330 to −101; p=0.00075), corresponding to an 8.2% mean endothelial cell loss. CCT increased at week 1 (551±32 to 583±33 µm; p<0.001) and partially regressed by month 1 (563±72 µm). ACD increased from 2.79±0.35 to 3.82±0.36 mm by month 1 (p<0.001), with significant widening in angle parameters (TISA500 temporal: 0.199±0.111 to 0.337±0.225 mm²; p=0.001). Central macular thickness showed a small increase by month 1 (251±33 to 258±28 µm; p=0.045), while GC-IPL metrics did not change significantly. Iris global VD was unchanged (p=0.13), whereas temporal limbal VD decreased by month 1 (31.9±7.9% to 27.3±7.5%; p=0.003).

Conclusions: In T2DM, phacoemulsification was associated with early endothelial loss, transient corneal thickening, and anterior chamber/angle widening, alongside a mild increase in macular thickness without GC-IPL change. Temporal limbal vascular density decreased, while iris global vascular density remained stable.

Key Words: type 2 diabetes mellitus, phacoemulsification, corneal endothelium, anterior segment OCT, macular OCT, OCTA

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-2

NELFILCON A VS LOTRAFILCON A IN CONTACT LENS–ASSISTED ACCELERATED CORNEAL CROSS-LINKING FOR THIN KERATOCONUS: A RETROSPECTIVE COMPARATIVE COHORT STUDY

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Abstract Text:

Background: To compare efficacy and safety of accelerated contact lens-assisted corneal cross-linking (CACXL) using two carrier lens materials in thin keratoconic corneas.

Methods: Retrospective single-center cohort of 70 eyes (70 patients) with progressive keratoconus treated with riboflavin 0.1% and UVA 5.4 J/cm² (365-370 nm). Carrier lens: lotrafilcon A (n=42) or nelfilcon A (n=28). Outcomes were Kmax, BCVA (logMAR), minimum corneal thickness (MCT), and endothelial cell count (ECC) at baseline and Months 1, 3, and 6. Linear mixed-effects models tested time and time-by-group interaction.

Results: At 6 months, BCVA improved in both groups (lotrafilcon A: 0.62±0.49 to 0.23±0.20; nelfilcon A: 0.49±0.43 to 0.30±0.19), favoring lotrafilcon A (between-group p=0.040; interaction p=0.035). Kmax decreased in both groups (lotrafilcon A: 59.26±5.30 to 57.89±4.77 D; nelfilcon A: 56.26±3.51 to 55.65±3.70 D), with greater flattening with lotrafilcon A (p=0.028; interaction p=0.024). MCT increased similarly (p=0.855). ECC showed a transient postoperative decrease with partial recovery in the lotrafilcon A group (interaction p<0.001) and no between-group difference at Month 6 (p=0.126). Transient corneal haze occurred in 7.1% per group; no serious ocular adverse events occurred.

Conclusions: Accelerated CACXL using either carrier lens material was safe and associated with short-term visual and tomographic stabilization/improvement through 6 months in thin keratoconus. Response trajectories differed by lens material for BCVA and Kmax, while pachymetry and endothelial safety were reassuring.

Key Words: keratoconus, corneal cross-linking, contact lens-assisted CXL, accelerated protocol, thin corneas

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-3

THE ROLE OF THE CHORD M PARAMETER IN THE DIAGNOSIS AND STAGING OF KERATOCONUS

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Abstract text

Introduction: Chord µ (mu) represents the distance between the visual and pupillary axes and is commonly used for centration of premium intraocular lenses (IOLs). As it provides information about corneal asymmetry and optical axis displacement, it may also have potential diagnostic value in keratoconus. This study aimed to investigate the role of Chord µ in the diagnosis and staging of keratoconus, to determine differences between stages based on the Amsler–Krumeich classification, and to evaluate its relationship with other corneal parameters.

Methods: This retrospective cross-sectional study was conducted at our refractive surgery clinic between January and October 2025. A total of 223 eyes (54 healthy and 169 keratoconus) were analyzed. Keratoconus cases were classified into four stages according to Amsler–Krumeich: Stage 1 (n=39), Stage 2 (n=53), Stage 3 (n=32), and Stage 4 (n=45). Clinical data and corneal topography obtained with Pentacam HR (Oculus, Germany) were reviewed. The Chord µ value was calculated using pupil coordinates (x, y) and the Euclidean formula. Evaluated parameters included Kmax, pachymetry, BAD-D, ARTmax, anterior/posterior elevations, BCVA (logMAR), and refractive error (D). Kruskal–Wallis, ROC, Spearman correlation, and logistic regression analyses were performed, with $p < 0.05$ considered significant.

Results: Mean Chord µ was 0.22 ± 0.12 mm in controls and 0.34 ± 0.22 mm in keratoconus eyes. No difference was found between control and Stage 1, while all other stages differed significantly ($p < 0.001$). Mean values were: Stage 0: 0.22, Stage 1: 0.21, Stage 2: 0.28, Stage 3: 0.37, Stage 4: 0.47 mm. The highest diagnostic performance was found when distinguishing Stage 0–2 from Stage 3–4 (AUC = 0.73; cut-off = 0.35 mm; sensitivity = 61%; specificity = 80%). Chord µ correlated positively with Kmax ($\rho = +0.43$) and negatively with pachymetry ($\rho = –0.28$) and BCVA ($\rho = –0.31$). It was not an independent predictor in multiple regression ($p = 0.56$).

Conclusion: Chord µ, readily calculated from Pentacam data, contributes to diagnosis and staging of keratoconus, particularly in advanced cases. Its progressive increase with disease severity suggests potential use as a biomarker for keratoconus progression. However, due to its limited discriminative power in early stages, combining it with parameters such as Kmax, BAD-D, and pachymetry may enhance diagnostic accuracy.

Key Words: Keratoconus, Chord mu, Pentacam, Corneal topography

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-4

CLINICAL OUTCOMES AND DEMARCATION LINE DEPTH AFTER ACCELERATED CORNEAL CROSS-LINKING IN PEDIATRIC PROGRESSIVE KERATOCONUS

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Abstract text:

Background: This study evaluated the efficacy of accelerated corneal collagen cross-linking (ACXL) in pediatric patients with progressive keratoconus and investigated the relationship between treatment efficacy and demarcation line depth measured by anterior segment OCT.

Methods: Medical records of patients under 18 years of age who underwent ACXL for progressive keratoconus between January 2022 and June 2023 were retrospectively reviewed. Preoperative and postoperative 1st, 6th, and 12th month complete ophthalmological examination findings and topographic data were recorded. Additionally, the demarcation line depth was measured on anterior segment OCT at 1 month postoperatively.

Results: A total of 49 eyes from 31 pediatric patients with progressive keratoconus were included. The mean age was 15.3 ± 1.36 years (range: 13–17 years), and all eyes completed a minimum follow-up of 12. months. Best corrected visual acuity (BCVA) improved significantly from 0.489 ± 0.056 logMAR preoperatively to 0.286 ± 0.045 logMAR at postoperative 12. month ($p = 0.005$). Cylindrical refraction showed a significant postoperative reduction ($p = 0.008$), whereas spherical refraction did not change significantly ($p = 0.101$). Significant postoperative changes were observed in keratometric parameters, including K1, K2, and Kmax ($p < 0.001$ for all). Kmax demonstrated a transient increase at postoperative first month, followed by significant flattening at 6. and 12. months compared with baseline. Central corneal thickness (CCT) and thinnest corneal thickness (TCT) decreased significantly at postoperative first month and showed partial recovery during follow-up; however, both parameters remained significantly lower than preoperative values throughout the study period ($p < 0.001$). The mean demarcation line depth (DLD) measured at postoperative first month was 343.24 ± 63.1 µm. Weak-to-moderate correlations were found between DLD and changes in cylindrical refraction ($r = 0.369$, $p = 0.035$) and posterior symmetry index ($r = 0.393$, $p = 0.024$) at 6 months, indicating an association between greater stromal penetration depth and posterior corneal topographic response.

Conclusion: Accelerated corneal collagen cross-linking is an effective treatment for stabilizing progressive pediatric keratoconus and improving visual, refractive, and keratometric outcomes. Demarcation line depth appears to reflect stromal and posterior corneal responses to treatment but should be considered a supportive marker rather than a primary determinant of clinical success.

Key words: pediatric keratoconus, crosslinking, demarcation line depth

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-6

INTRAOCULAR LENS IMPLANTATION USING SUTURELESS SCLERAL FIXATION TECHNIQUE IN A CASE OF BILATERAL ISOLATED LENS COLOBOMA AND ITS OUTCOMES

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Abstract Text:

Introduction: Coloboma is an embryological eye anomaly resulting from ocular developmental defects occurring between the 5th and 7th intrauterine weeks. Lens coloboma is characterised by a notch in the lens equator and results from regionally defective or incomplete development of the zonules. Lens coloboma may be unilateral or bilateral and may be isolated or associated with a systemic disease.

Methods and Findings: A 7-year-old female patient presenting to our clinic with complaints of poor vision in both eyes was found to have bilateral isolated lens coloboma and accompanying zonular insufficiency following a detailed ophthalmological examination. Preoperative best-corrected visual acuity measured with the Snellen Chart (BCVA) was 0.1 in both eyes. Crystalline lens extraction, anterior vitrectomy, and intraocular lens implantation using the sutureless scleral fixation technique (Modified Yamane) under general anaesthesia in a single session were planned for both eyes. As the family declined single-session surgery, the procedure was performed in two sessions with a one- week interval. Crystalline lens extraction was performed using bimanual I/A after continuous circular capsulorhexis. Following capsulotomy and anterior vitrectomy, intraocular lens implantation was performed using the sutureless scleral fixation technique. Lens centralisation and stability were confirmed intraoperatively. No intraoperative complications were observed. At the 6-month postoperative follow-up, a significant increase in EIDGK was observed in both eyes (right eye postoperative: 0.6, left eye postoperative: 0.6). Successful intraocular lens centralisation and stabilisation was achieved in both eyes with approximately 0.50 dioptres of lenticular astigmatism. No significant complications were observed in the early or late postoperative period. Bifocal spectacles were used for visual rehabilitation.

Conclusion: In cases of isolated lens coloboma, the surgical approach should be individualised according to the degree of zonular insufficiency, the presence of vitreous prolapse, the preservability of capsular support, and accompanying posterior segment pathologies. Surgical success is directly related to the correct patient selection, appropriate planning of vitreous management, and the IOL fixation technique determined according to the condition of the capsular support. The presented case demonstrates that IOL implantation with scleral fixation after anterior vitrectomy may be a safe and effective alternative in selected cases.

Key Words: Lens coloboma, scleral fixation

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-7

COMPARISON OF REFRACTION RESULTS OF IOL CALCULATION FORMULAS ACCORDING TO BIOMETRIC PARAMETERS IN CATARACT PATIENTS

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Abstract Text:

Introduction/Background: The aim of our study is to find the most accurate IOL calculation formula that minimizes the refraction value after cataract surgery. In our study, we compared the SRK-T, Haigis, Barrett, HofferQ, Holladay and Hill RBF formulas available on the Lenstar LS 900 (Haag-Streit, Switzerland) optical biometric device, and the BUII, Kane and EVO formulas that we could find for free on the internet.

Methods: This study was conducted on patients scheduled for phacoemulsification surgery due to cataracts at Antalya Training and Research Hospital between January 2022 and January 2023. The study included 300 eyes from 300 patients. Patients underwent phacoemulsification surgery and a monofocal IOL was implanted into the capsular sac. Spherical equivalents (SE) calculated at the patients; first postoperative examination were recorded. The difference between the predicted refraction value (PRV) and the spherical equivalent was calculated using the IOL calculation formulas. The mean absolute error (MAE) value was determined for each formula. The PRV and OMH values of the formulas were compared according to ALs and other biometric parameters.

Results: Among the formulas, those that give the lowest MAE values in all AL groups are Haigis, Holladay, SRK/T, and BUII formulas. The formula that gives the highest OMH value is Hill RBF. For patients with an axial length of 22.00 mm or less, the most accurate formula is SRK/T. For patients with an axial length of 22.00-24.50 mm, the most accurate formula is BUII. For patients with an axial length of 24.50 mm or greater, the most accurate formula is Haigis.

Conclusions: The Haigis, Holladay, SRK/T formulas available on the optical biometric device and the BUII formulas, which can be found for free on the internet, are easily accessible and statistically successful formulas that provide accurate results.

Key Words: Axial length, biometry, cataract, intraocular lens power calculation formulas

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-8

EXPANDING THE CLINICAL ROLE OF EXTENDED-SEGMENT INVISIBLE BIFOCAL SPECTACLE LENSES IN PEDIATRIC OPHTHALMOLOGY

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Abstract Text:

Introduction/Background: In pediatric ophthalmology, conventional flat-top segmented bifocal spectacle lenses are commonly prescribed for the management of accommodative dysfunction and high AC/A ratio esotropia. Although effective, these designs may present cosmetic and adaptation challenges in children. In recent years, extended-segment invisible bifocal spectacle lenses have emerged as a potential alternative. We aimed to evaluate the clinical spectrum of pediatric patients prescribed these lenses and to assess short-term adaptation outcomes.

Methods: This retrospective study included pediatric patients who were prescribed extended-segment invisible bifocal spectacle lenses between January 2024 and January 2026 and had a minimum follow-up of three months. Demographic characteristics, refractive status, accommodative findings, lens status, and deviation profiles were recorded. Early follow-up visits were reviewed to assess adaptation and technical adjustments.

Results: A total of 24 patients were included; 13 were female (54%) and 11 were male (46%). The age ranged from 3 to 17 years, with a mean age of 9.58 years. High AC/A ratio esotropia was the most common indication (14 patients, 58%). Six patients (25%) were pseudophakic, and four patients (17%) had myopia with astigmatism and accommodative lag. Seven patients (29.2%) had previously used conventional segmented bifocal lenses and were successfully switched to invisible designs. Three patients (12.5%) required early remanufacturing at the second-week visit due to fabrication-related adjustments. All patients completed at least three months of follow-up.

Conclusions: Extended-segment invisible bifocal spectacle lenses were prescribed across a broad pediatric spectrum, including high AC/A ratio esotropia, pseudophakia, and accommodative dysfunction. These lenses may represent a cosmetically acceptable alternative to conventional segmented bifocals, with satisfactory early adaptation when appropriate follow-up is ensured.

Key Words: extended, invisible, bifocal, pediatric ophthalmology

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-9

CLINICAL EVALUATION OF POSTOPERATIVE VISUAL RECOVERY IN PATIENTS WITH HIGH MYOPIA AND AMBLYOPIA AFTER PHAKIC IOL IMPLANTATION

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Abstract Text:

Introduction. Phakic intraocular lens (PIOL) implantation is widely used as a modern and effective method for correcting high myopia. It also allows for optical restoration while preserving the structures of the eye and is especially important for patients whose corneal anatomy is not suitable for laser surgery. At the same time, it opens up the possibility of studying the neuro visual adaptation of postoperative vision recovery in patients with amblyopia.

Objective. This study aimed to identify the stages of visual function recovery after pIOL implantation in patients with high myopia and the differences between amblyopic and non-amblyopic patients.

Materials and methods. An observational clinical study was conducted in 80 patients (160 eyes) with high myopia aged 18–45 years. The mean manifest SE was: (–) 14.0±3.5D. Patients were divided into amblyopic and non-amblyopic groups. 34 patients (68 eyes) were included in the amblyopic group. Who has mild amblyopia in 20 patients (58.8%) and moderate amblyopia in 14 patients (41.2%). Visual acuity indicators were assessed from the first day to 6 months after surgery.

Results. After surgery, visual function in patients was restored in three stages. In the early stage (24-72 hours), visual acuity increased from 0.2 to 0.5 in the middle stage (1-4 weeks), contrast sensitivity and binocular vision improved. Vision stabilized lately (4-8 weeks), in patients with amblyopia, more slowly, but additional visual therapy was effective.

Conclusion. IOL implantation in patients with high myopia provides not only rapid optical correction, but also stable neuro visual adaptation, significantly improving the quality of vision. In patients with mild amblyopia, the average visual acuity increased from 0.32±0.05 to 0.68±0.07. In patients with moderate amblyopia, it improved from 0.17±0.06 to 0.45±0.05. These results allow us to recommend pIOL as an effective and safe method for patients with high myopia, and expand the possibilities of modern refractive surgery.

Keywords: Phakic intraocular lens, high myopia, amblyopia, implantation, postoperative assessment.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-10

EFFECT OF BLUE LIGHT–FILTERING VERSUS UV-FILTERING INTRAOCULAR LENSES ON SLEEP QUALITY IN UNILATERAL AND BILATERAL CATARACT SURGERY: A PROSPECTIVE PITTSBURGH SLEEP QUALITY INDEX STUDY

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Abstract text

Introduction-Purpose: It has been reported that intraocular lenses (IOLs) implanted after cataract surgery may influence not only visual rehabilitation but also circadian rhythm and sleep patterns. The role of blue-light filtration on melatonin secretion has rendered the effects of lenses with different optical properties on sleep quality clinically meaningful. However, studies in the literature evaluating the combined effect of lens type and whether surgery is performed unilaterally or bilaterally are limited. The aim of this study is to assess the effects of blue-light and UV-filtering IOLs on sleep quality in patients undergoing unilateral and bilateral cataract surgery, in the preoperative and postoperative periods, using the PSQI.

Methods: Prospective study included 160 patients scheduled for surgery due to cataract. Patients were divided into two groups according to the type of implanted IOL: blue light and UV-filtering lenses; each group was further subdivided into unilateral and bilateral surgery subgroups based on the surgical approach. The PSQI was administered to all participants one week before surgery. Postoperative assessment was performed four weeks after surgery in the unilateral group and four weeks after the second-eye surgery in the bilateral group.

Results: A significant improvement in PSQI scores was observed after cataract surgery (preoperative: 8.1 ± 2.3; postoperative: 5.4 ± 2.0; p < 0.001). The most pronounced improvement was seen in the bilateral blue light–filtering IOL group (−3.5 ± 1.4), followed by the bilateral UV-filtering (−2.8 ± 1.3), unilateral blue light–filtering (−1.9 ± 1.2), and unilateral UV-filtering (−1.2 ± 1.0) groups. In the two-factor analysis, the surgical approach had a significant effect on ΔPSQI (p <0.001). IOL type also made a significant contribution (p = 0.01).

Conclusion: Cataract surgery significantly improves sleep quality, with this effect being more pronounced in bilateral procedures. Blue light–filtering IOLs provide additional benefit, particularly in bilateral cases.

Key Words: Cataract surgery, sleep quality, circadian rhythm; PSQI

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-11

NEW PROTOCOL OF «FEMTOLASER CATARACT EMULCIFICATION» USING FEMTO LDV Z8 PLATFORM

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Abstract text:

Background: Femtosecond laser technologies in cataract surgery have become widely accepted in clinical practice due to the precision of individual surgical stages. The development of more effective lens emulsification protocols using laser technologies can reduce the ultrasound load, which will ensure a more gentle approach and preservation of intraocular structures. The aim of the study was to evaluate cumulative dissipated energy (CDE) and endothelial cell density (ECD) dynamics in patients undergoing a new femtosecond laser cataract emulsification protocol using the Femto LDV Z8 compared to standard femtosecond-assisted and traditional ultrasound-assisted phacoemulsification.

Methods: A prospective, non-randomized comparative study of the surgical treatment of patients with Buratto stage 3 cataracts using three techniques: femtosecond laser cataract emulsification (FLEC) in 23 eyes, femtosecond laser-assisted cataract surgery with traditional pizza-type fragmentation (FL-PACE) in 28 eyes, and traditional phacoemulsification (PACE) in 25 eyes. Femtosecond laser procedures were performed on the Femto LDV Z8 platform (Ziemer, Switzerland), and phacoemulsification was performed on the Centurion platform (Alcon, USA). All patients received the same type of hydrophilic GalaxyFold IOL (India). The primary outcome measures were cumulative dissipated energy and endothelial cell loss. The follow-up period was one month.

Results: After FLEC, the CDE was 8.92±2.43, and the endothelial cell loss was 9.3%. After FL-FEC, the CDE was 13.12±4.77%, with a 10.2% reduction in EDC. In the group after standard FEC, the CDE was 15.37±5.32, with a 12.3% reduction in EDC, respectively. The percentage reduction in endothelial cell loss was statistically lower in the FLEC group compared to the FL-FEC and standard FEC groups after cataract surgery (P = 0.02). No statistically significant difference was observed between the groups when analyzing visual acuity dynamics at one month. Transient corneal edema was observed in one patient (4.3%) after FLEC, in two cases (7.1%) after FL-FEC, and in two cases (8%) in the FEC group.

Conclusion: The use of a new femtosecond laser nuclear emulsification protocol using the Femto LDV Z8 laser platform reduces the total dissipated energy by 47% compared to FL-FEC and by 72% compared to traditional FEC. The reduction in PEC after FLEC was less pronounced – 9.3% compared to 10.2% after FL-FEC and 12.3% after FEC, respectively.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-12

IMMUNOLOGICAL ASPECTS OF LOCAL CYTOKINE CONTENT IN PATIENTS WITH HIGH REFRACTIVE ANOMALIES

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Abstract Text:

Introduction: Cytokines play a key role in the regulation of immune responses, cell proliferation, and inflammatory processes, which is particularly important in refractive errors accompanied by changes in ocular tissue.

Objective: To study the local content of immune response mediators in the anterior chamber fluid of patients with refractive errors before PIOL implantation.

Materials and Methods: The study included 131 eyes of 85 patients with refractive errors, who formed the study group. The study group was also divided into five subgroups based on the type of refraction. The control group consisted of 20 patients with emmetropia. Biomaterial collection was performed at the NAZAR Eye Center in Tashkent in compliance with bioethical requirements and protocols from 2024 to 2025. Cytokines were determined by enzyme-linked immunosorbent assay (ELISA) using Vector-Best (Russia) (IL-6, IL-10, TNF-α, TGF-β2) and Fine Test Co., Ltd (China) (IP-10, MIP-1β, ELISA kit). All results were analyzed for optical density.

Results: Before PIOL implantation, local IL-6 and TNF-α levels in the study group were 6.34±0.52 pg/ml and 8.45±0.63 pg/ml. Local IL-10 and TGF- β2 levels were 2.29±0.34 pg/ml and 13.52±0.46 pg/ml. Local IP-10 and MIP-1β levels were 16.3±0.5 pg/ml and 12.43±0.48 pg/ml respectively. Metalloproteinase-1 levels in the study group before PIOL implantation was 8.62±0.53 pg/ml.

Conclusions: TNF-α levels in the anterior chamber fluid of patients with refractive errors showed significant differences between the groups. This indicates a pronounced inflammatory response accompanying structural changes in the eye with high myopia. In patients with high myopia, IL-10 concentrations were statistically significantly reduced compared to the control group. These data suggest a suppressed anti-inflammatory response in patients with high myopia, which may indicate insufficient immunomodulatory activity and chronic inflammation in ocular tissues. Excessive TGF-β2 levels may also contribute to pathological remodeling of ocular tissues, accelerating myopia progression. A study of MIP-1β, IP-10, and MMP- levels revealed a statistically significant increase in patients with high myopia.

Key Words: Cytokines, refractive error, anterior chamber fluid, PIOL implantation.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-13

PERSONALIZED CATARACT SURGERY: INTEGRATING TECHNOLOGY, BIOMECHANICS, AND PATIENT BIOLOGY FOR SUPERIOR OUTCOMES

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Abstract Text:

Cataract surgery is transitioning from a standardized procedure into a highly personalized refractive intervention where decisions are increasingly guided by technology, ocular biomechanics, and patient-specific biological factors. This keynote will explore how a deeper understanding of corneal architecture, lens–zonule complex physiology, and individual wound-healing biology intersects with advanced diagnostics and intraoperative technologies to refine outcomes.

We will review how modern biometry, tomography, ray-tracing, and ocular surface profiling contribute to individualized IOL selection and refractive planning. Special attention will be given to how biomechanics—including corneal hysteresis, scleral rigidity, zonular strength, and anterior segment geometry—directly influence effective lens position prediction and refractive stability.

In parallel, we will discuss patient biology and its implications: variations in ocular surface homeostasis, inflammatory phenotypes, capsular fibrosis tendencies, and how systemic conditions modulate recovery and long-term IOL performance. The integration of AI-driven predictive models, image-guided alignment, and intraoperative aberrometry will be reviewed as tools that augment—rather than replace—surgeon judgment.

This personalized, data-driven approach aims to elevate visual quality, reduce variability, and deliver outcomes that are not only more precise but also more meaningful to each individual patient.

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-14

APPROACH TO PATIENTS WITH LOW VISION

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Abstract text

Due to the aging population worldwide, the rates of visual impairment are steadily increasing. Visual impairment refers to low vision and blindness. Those with visual acuity below 20/60, equal to or above 20/400, or with a visual field of 20° or less are defined as “low vision” and require rehabilitation.

Functionally, low vision can be considered as a level of vision that prevents daily activities from being performed. Legally, vision below 20/400 or a visual field of less than 10° is defined as blindness. In developed countries, visual impairment occurs due to causes that are currently unpreventable and/or untreatable, while in developing countries, preventable (trachoma infection, malnutrition-vitamin A deficiency) and/or treatable (such as cataracts) causes are more common.

Modern low vision rehabilitation consists of the following stages: intake, evaluation of residual visual function, evaluation of residual functional vision, intervention, and recommendations for vision rehabilitation treatments. Optical aids used in low vision rehabilitation include telescopes, magnifiers, high-powered reading glasses, and tinted lenses. Electro-optic systems and electronic tablets are also preferred devices for distance and near tasks in school-age children. Applications such as lighting, large-print books, increasing the contrast of the environment, typoscopes, and reading stands can be used alone or in conjunction with optical systems for patients with low vision.

With the advancement of technology today, artificial intelligence-supported camera-assisted systems are also coming to the aid of individuals with visual impairments. Low vision rehabilitation is not limited to prescribing any low vision aid device. Education programs consisting of clinical and home exercises will support independent living by improving the individual’s daily living skills, orientation, mobility, and other functions, in addition to increasing the usage rates of low vision aid devices.

Key Words: Low vision, rehabilitation, retinal dystrophies

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-15

BIMANUAL STRETCHING OF SMALL UNDILATED PUPIL DURING CATARACT SURGERY: SIMPLE BUT RIGHT CHOICE? – CLINICAL CASES

Hafiz Kahramanov, Pasha Musayev Galbinur, Kurban Ismayilov, Gabil Zulfiyev

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Abstract Text:

Introduction: A small, undilated pupil is one of the most common problems encountered by cataract surgeons, making the surgery more complex causing a number of undesirable complications. Therefore, in addition to various pharmacological methods, mechanical methods such as sphincterectomy, bimanual stretching, iris hooks, and pupil dilator rings are also used for intraoperative pupil dilation. Our aim in this study was to analyze and evaluate the effectiveness of bimanual stretching of a small undilated pupil during cataract surgery.

Methods: Clinical experience of bimanual stretching analysis in comparison with literature review of results of different mechanical dilation devices was performed. The comparison of results was based on the diameter of the pupil and its stability during surgery, the effect on surgical time, the postoperative condition of the pupil, and cost-effectiveness of these devices.

Results: In eyes with small undilating pupils caused by factors such as pseudoexfoliation, posterior adhesions, IFIS, miotic therapy, prior surgery, pharmacological dilation and viscodilation of the pupil leads to insufficient and unstable dilation of the pupil. In contrast, existing mechanical dilation methods and devices for small pupils, including the bimanual stretching method, ensure that the pupil remains stable throughout the entire operation by dilating it sufficiently. In addition, the bimanual stretching method is easy to perform and allows for safe surgery, it does not prolong the operating time and the pupil shape remains round at the end of the operation, making it indistinguishable from other pupil dilation devices.

Conclusion: Mechanical iris manipulations such as bimanual stretching seem to be effective and economically feasible. Although bimanual stretching dilates the pupil less compared to other mechanical stretching methods, it seems to be advantageous due to its ease application, available technique, lack of time loss, adequate pupil dilation providing safe cataract surgery.

Key Word: small undilated pupil, bimanual stretching of pupil, mechanical dilation devices of pupil

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-16

WHAT SHOULD BE THE TRUE GOAL IN MYOPIA CONTROL: BEYOND SLOWING PROGRESSION TOWARD PHYSIOLOGICAL OCULAR GROWTH?

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Abstract text

Introduction / Background: Myopia is a rapidly increasing global health concern and should be regarded not merely as a refractive error but as a progressive disorder associated with lifelong risks of vision- threatening complications. High myopia substantially increases the risk of retinal detachment, myopic maculopathy, glaucoma, and cataract, emphasizing the need for effective myopia control strategies. Despite advances in optical and pharmacological interventions, there remains no consensus on the ultimate therapeutic goal of myopia control.

Methods: This presentation is based on a critical synthesis of contemporary concepts in myopia management, integrating evidence from recent clinical studies, risk–benefit analyses, and real-world pediatric observations. Particular emphasis is placed on comparing conventional treatment endpoints—such as refractive progression and axial elongation—with age-specific physiological ocular growth patterns as proposed in emerging frameworks.

Results: Current myopia control strategies primarily define success as slowing refractive progression or suppressing axial elongation. However, these endpoints do not necessarily reflect normalization of ocular growth. Evidence suggests that refractive stability, axial elongation control, and approximation to physiological growth curves represent distinct biological outcomes. Real-world pediatric data indicate substantial inter-individual variability in treatment response related to age, baseline axial length, and myopia severity, supporting the need for personalized management approaches.

Conclusions: The goal of myopia control may extend beyond simply slowing progression. A physiology-guided approach that aims to limit pathological axial elongation while supporting age-appropriate ocular growth may represent a more meaningful therapeutic target. Future myopia management strategies should emphasize individualized treatment planning, and long-term prospective studies are required to determine whether normalization toward physiological growth patterns is achievable and how it influences lifelong visual outcomes.

Key Words: myopia control; axial elongation; physiological growth curves; personalized myopia management; pediatric myopia

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-17

CLINICAL OUTCOMES OF HIGH ASTIGMATISM CORRECTION WITH SMARTSIGHT TECHNOLOGY

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Abstract Text:

Purpose: To evaluate the safety, efficacy, and predictability of the SmartSight keratorefractive lenticule extraction (KLeX) procedure for the correction of high astigmatism.

Methods: This retrospective observational study evaluated the clinical outcomes of patients who underwent SmartSight procedure between June 2025 and November 2025. The cohort comprised 30 patients (11 males, 19 females), representing 47 eyes, with a mean age of 26.35 ± 6.00 years. Pre-operative and post-operative clinical parameters, including manifest refraction (cylinder and SEQ), safety, efficacy index and Alpin's vector analysis were analyzed to assess outcomes.

Results: Pre-operatively, the mean SEQ was -4.89 ± 1.51D, and the mean cylinder was -2.32 ± 0.59D. At the final follow-up, the mean SEQ was reduced to -0.08 ± 0.52D, and the mean residual astigmatism was reduced to -0.32 ± 0.50D. Astigmatic correction was highly predictable, with 88% of eyes achieving a post-operative cylinder of ≤0.75D. Alpin's vector analysis demonstrated a Target Induced Astigmatism (TIA) of 2.32 ± 0.59D, a Surgically Induced Astigmatism (SIA) of 2.11 ± 0.52D, and a Difference Vector (DV) of 0.52 ± 0.29D. The mean Correction Index (CI) was 0.92 ± 0.17, indicating highly accurate and predictable results. The treatment was perfectly aligned, with an Angle of Error (AoE) of just -3.29 ± 4.48°. The procedure yielded a mean efficacy index of 1.00 ± 0.17 and a mean safety index of 1.00 ± 0.03.

Conclusion: The SmartSight procedure is highly effective, safe, and predictable for the correction of high astigmatism. It provides excellent refractive and visual outcomes, successfully neutralizing both spherical and astigmatic components of refraction with high rotational stability, precise vector alignment, and an excellent safety profile.

Key Words: keratorefractive lenticule extraction, KLeX, high astigmatism, SmartSight

CRS: CATARACT & REFRACTION SESSIONS ORAL PRESENTATIONS ABSTRACTS

CRS-18

COVID-19 PANDEMIC AND MYOPIA PROGRESSION: OUR CLINICAL FINDINGS

Merve Bozkurt Gencer

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Abstract text

Introduction: To evaluate the changes in refractive error among children with high screen exposure who were followed in our clinic and received online education during the COVID-19 pandemic period.

Method: This study included patients diagnosed with myopia and regularly followed up at the Ophthalmology Clinic of Antalya Training and Research Hospital between 2019 and 2022, whose examination findings were complete. A total of 354 eyes from 177 pediatric patients (mean age at first visit: 12.63 ± 2.25 years) who did not use any myopia control methods were analyzed. All patients underwent cycloplegic refraction, detailed anterior segment, and fundus examinations.

Findings: At the first visit, the mean spherical value was −1.53 ± 1.14 D, cylindrical value −0.42 ± 0.68 D, and spherical equivalent −1.71 ± 1.19 D. The mean follow-up period was 8.2 ± 1.46 months. The average daily screen time due to online education and social isolation was reported as 6–7 hours in all children. During the second visit, each patient again underwent cycloplegic refraction and detailed anterior and posterior segment examination. The mean spherical value was −2.49 ± 1.32 D, cylindrical value −0.54 ± 0.64 D, and spherical equivalent −2.76 ± 1.39 D.

Results: Previous studies have reported an average annual myopia progression of approximately −0.55 D in European and −0.82 D in Asian children. According to our findings, the increased screen time observed during the pandemic may represent a significant factor contributing to myopia progression beyond the expected annual refractive change in myopic children. Although limiting screen exposure remains an important preventive measure, other potential factors influencing myopia progression should also be considered.

Key Words: Myopia, myopia progression, COVID pandemic

CS: CORNEA SESSIONS ORAL PRESENTATIONS ABSTRACTS

CS-1

CHANGES IN CORNEAL ABERRATIONS, CORNEAL TOPOGRAPHY AND VISUAL ACUITY VALUES AFTER CORNEAL COLLAGEN-CROSS LINKING IN PATIENTS WITH KERATOCONUS

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Abstract text

Objective: The aim of this study is to compare the visual acuity, topographic values and corneal aberration values of patients diagnosed with keratoconus before and after corneal collagen cross linking (CXL) treatment, and to try to investigate the effect of the affected aberrations and topographic values on visual acuity.
Materials and Methods: Clinical examination findings, file records and topographic evaluations of 40 patients diagnosed with keratoconus at the Ankara Health Application and Research Center Cornea Unit of the University of Health Sciences between March 2013 and October 2023, before and after CXL treatment, were retrospectively examined in the 1st, 3rd and 6th months. Statistical analyses were performed using SPSS (Statistical Package for Social Sciences; SPSS Inc., Chicago, IL) version 22, with all statistical tests evaluated at a significance level of p<0.05 and a 95% confidence interval.

Results: A total of 54 eyes of 40 patients, 23 (42.60%) males and 17 (31.50%) females, were included in our study. Of the 54 eyes, 26 (48.15%) were recorded as right eyes and 28 (51.85%) were recorded as left eyes. The mean age was 18.70±4.69 years (range 10-30 years). It was determined that best corrected and uncorrected visual acuity values increased significantly at the 6th months after CXL compared to the preoperative period (p=0.001, p<0.001, respectively). In topography, a statistically significant decrease was observed in anterior surface K1, K2, Km, Kmax, anterior elevation and posterior surface K1 values after the procedure (p=0.049, p<0.001, p=0.006, p<0.001, p<;0.001, p=0.001, (p<0.05) respectively). In the aberration examination, a significant decrease in the anterior surface quadrifoil (p=0.018) and a decrease in the posterior surface trefoil (p=0.01) aberration values were detected at 4mm measurement.

Conclusion: CXL treatment contributes to an increase in visual acuity, improvement in topographic values and a decrease in higher order aberrations.

Key words: High order aberrations, topography, visual acuity

CS-2

ADVANCED ACCELERATED CROSS-LINKING APPROACHES FOR THIN KERATOCONUS: THREE-YEAR COMPARATIVE CLINICAL OUTCOMES

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Abstract Text:

Purpose: To evaluate the safety and efficacy of accelerated corneal collagen cross-linking (CXL) with an overlying corneal lenticule (A-LACXL) in progressive keratoconus with thin corneas, and to compare outcomes with accelerated contact lens-assisted CXL (A-CACXL) and conventional accelerated CXL (A-CXL).

Methods: This prospective comparative study included eyes with progressive keratoconus and stromal thickness <400 µm after epithelial removal. Patients were divided into three groups: A-LACXL (14 eyes), A-CACXL (26 eyes), and A-CXL (24 eyes). Mean age was 27.0 ± 7.2 years. Follow-up duration was 3 years. Uncorrected (UDVA) and corrected (CDVA) distance visual acuity, manifest refraction, keratometric parameters (Kmax, Kmean), pachymetry, and endothelial cell density (ECD) were assessed preoperatively and postoperatively.

Results: Significant improvement in UDVA was observed in all groups at 12 months ($p < 0.05$), with stability maintained through 3 years. Kmax decreased by 0.94 ± 1.62 D in A-LACXL, 1.05 ± 1.84 D in A-CACXL, and 0.86 ± 1.57 D in A-CXL. Early postoperative thinning at 1 month was followed by long-term stabilization of corneal thickness. ECD remained stable in all groups. No statistically significant differences were found among groups in changes of UDVA, CDVA, Kmax, Kmean, or ECD (all $p > 0.05$). Rates of progression, regression, and stability were comparable ($p = 0.642$).

Conclusions: In progressive keratoconus with thin corneas, both lenticule-assisted and contact lens–assisted accelerated CXL demonstrate comparable visual and tomographic outcomes to accelerated CXL without additional safety risks. The absence of endothelial compromise and sustained 3-year stability support A-LACXL and A-CACXL as reliable alternatives when conventional pachymetric safety thresholds are not met.

CS-3

COMPARISON OF TOPOGRAPHIC OUTCOMES IN PATIENTS WHO HAVE UNDERGONE DALK AND PK SURGERY

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Abstract Text:

Purpose: To investigate the difference in topographic and visual outcomes in patients undergoing penetrating keratoplasty (PK) or deep anterior lamellar keratoplasty (DALK) in non ectatic corneal disorders.

Methods: Clinical examination findings, surgery videos and topographic evaluations of 75 eye who underwent PK and 75 eye who underwent DALK surgery ith non-ectatic corneal pathology, were followed up for at least 24 months between January 2019 and September 2023 at the Ankara Research and Training Hospital's Cornea Unit of were retrospectively analyzed.

Results: Mean Posterior K1 was significantly lower in DALK vs. PKP (-6.22 vs. -5.84; p=0.004), while Posterior K mean was higher in PKP (-6.49 vs. -6.35). DALK showed greater anterior chamber volume (145.51 vs. 126.07; p=0.026) and posterior elevation (21.91 vs. 12.66; p=0.009). No significant BCVA difference was observed between DALK and PK; however, scar cases had worse BCVA than dystrophies (0.79 vs. 0.55 logMAR; p=0.09). Posterior surface K-mean differed significantly between groups, being higher in PKP than DALK. The donor recipient graft diameter mismatch was greater in PKP, reflecting increased trephination differences. As a full thickness procedure, PKP may result in incomplete endothelial apposition, promoting microgaps, stromal overgrowth, and stronger scar formation, which can increase traction, flatten the graft, and reduce anterior chamber volume. When stratified by diagnosis, postoperative visual acuity was lower in the scar group than in dystrophies, likely due to higher-order aberrations.

Conclusion: In the surgical treatment of non-ectatic corneal pathologies, there is no significant difference in visual outcomes between DALK and PKP procedures. In cases of corneal scarring, postoperative high-order aberrations can prevent achieving optimal visual acuity, even when the graft remains clear.

CS-4

CORNEAL TOMOGRAPHIC ANALYSIS IN HASHIMOTO'S THYROIDITIS

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Abstract text:

Introduction: Hashimoto's thyroiditis (HT) is an autoimmune thyroid disorder that may be accompanied by orbital involvement. Although ocular surface and corneal structural alterations have been reported in HT, the impact of associated orbitopathy on corneal optical quality remains unclear. This study aimed to determine the prevalence of orbitopathy in HT and its associations with corneal higher-order aberrations (HOAs), anterior segment parameters, and thyroid hormone levels.

Methods: Patients with HT underwent ophthalmologic evaluation and were classified according to the presence of orbitopathy based on predefined criteria. Corneal HOAs were analyzed in 4-mm and 6-mm zones. Serum thyroid-stimulating hormone (TSH), free triiodothyronine, and free thyroxine(T4) levels were measured. Correlation regression, and receiver operating characteristic (ROC) curve analyses were performed.

Results: Sixty-eight patients were included (mean age: 49.5±11.4 years; 70.6% female), and orbitopathy was present in 23.5% of cases. In 6-mm zone, coma, 4th- and 5th- order root mean square (RMS) values were significantly higher in the orbitopathy group ($p=0.035$, $p=0.028$, and $p=0.037$ respectively). Hertel measurements showed positive correlations with coma ($r=0.281$, $p=0.031$), 5th-order ($r=0.350$, $p=0.018$), and total RMS ($r=0.430$, $p=0.009$). ROC analysis demonstrated modest discriminatory ability of 4th- and 5th-order RMS values for detecting orbitopathy (AUC=0.674 and 0.669). Regarding thyroid hormones, TSH was negatively associated with corneal volume, while T4 was also associated with corneal volume and elevation parameters (all $p<0.05$). In HOA analysis, TSH was negatively correlated with coma in both 4-mm ($r=-0.289$, $p=0.034$) and 6-mm zones ($r=-0.333$, $p=0.014$). In the 6-mm zone, T4 demonstrated positive correlations with coma ($r=0.520$, $p=0.005$), 5th-order ($r=0.307$, $p=0.030$), and total RMS ($r=0.277$, $p = 0.038$).

Conclusions: In our cohort, orbitopathy was observed in approximately one-quarter of patients with HT and was associated with higher corneal HOAs, particularly coma and higher-order RMS values in the peripheral cornea. Associations between thyroid hormone levels further suggest a potential influence of thyroid hormones on corneal structural and optical properties.

Key Words: Corneal Wavefront Aberration, Exophthalmometry, Hashimoto's Thyoiditis, Thyroid-Associated Orbitopathy, Thyroid Hormones.

CS-5

EFFECTIVENESS OF SCLERAL LENSES

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Abstract text

Introduction: Scleral lenses are an effective method of optical vision correction for various pathological conditions. They create a regular optical surface by filling the space between the lens and the cornea with an aqueous layer, which helps neutralize irregularities and improve visual acuity.

Methods: The study included 13 patients (17 eyes) with various pathological conditions: Keratoconus – 4 eyes (23.5%), high myopia, complex myopic astigmatism – 4 eyes (23.5%)**,** compound myopic astigmatism, moderate myopia – 3 eyes (17.6%)**,** mixed astigmatism – 2 eyes (11.8%)**,** corneal scars – 2 eyes (11.8%)**,** post-PKP – 1 eye (5.9%)**,** high hyperopia, complex hyperopic astigmatism – 1 eye (5.9%)**.** All patients were fitted with SkyOptix CL lenses using a standard procedure.

Results: Most values are in the range of 0.10–0.50, indicating insufficient vision correction in some patients. Only one participant achieved a visual acuity of 0.60, which is considered acceptable for comfortable daily activities. Repeated values of 0.10 and 0.40 indicate the typical level of correction achieved with the optical correction methods used by patients. Maximum visual acuity values are significantly higher for all parameters, with many patients approaching - 1.00. Corrected visual acuity with glasses or contact lenses has extremely low values (in the range of 0.02–0.20), indicating a significant difference between the two parameters.

Conclusions: A significant increase in visual acuity has been established - on average by 3-4 lines on the Snellen scale, which confirms their clinical effectiveness in various types of refractive errors, including irregular astigmatism. Scleral lenses are an effective method of optical rehabilitation in cases where traditional means of correction are not effective enough, and laser vision correction methods may not be effective.

CS-6

EFFECTS OF SUBEPITHELIAL INFILTRATES FOLLOWING ADENOVIRAL KERATOCONJUNCTIVITIS ON CORNEAL TOPOGRAPHY AND ENDOTHELIUM

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Abstract Text:

Background: This study aimed to measure the effects of persistent corneal subepithelial infiltrates associated with epidemic keratoconjunctivitis on specular microscopy, corneal topograph, and total corneal higher order aberrations (HOAs), and to compare these measurements with the data obtained from their fellow unaffected healthy eyes.

Methods: In this prospective cross-sectional study, patients with unilateral persistent adenoviral subepithelial infiltrates (ASI) (≥1 month) and clinically normal fellow eyes were evaluated. Corneal topography (Sirius Scheimpflug) was used to analyze total corneal higher-order aberrations (HOAs) via Zernike decomposition, including coma, trefoil, spherical aberration, and higher-order root mean square (HOA-RMS). Corneal endothelium was assessed by specular microscopy; endothelial cell density (ECD), mean cell area (MECA), coefficient of variation (CV), and hexagonality (HEX) were recorded and compared between affected and fellow eyes.

Results: Fifty-seven patients were included (34 ASI, 23 controls). Age, sex, and laterality were comparable between groups ($p<0.05$). ASI eyes had worse BCVA (logMAR) than fellow eyes (0.20±0.09 vs 0.01±0.04; $p<0.001$) and showed higher total HOA ($p=0.015$) and residual astigmatism ($p=0.043$). Specular microscopy demonstrated higher CV in ASI eyes ($p=0.019$), while ECD and other endothelial parameters were similar ($p<0.05$). BCVA ($p=0.001$), corneal astigmatism ($p=0.047$), HOA-RMS ($p=0.027$), residual astigmatism ($p=0.045$), and CV ($p=0.038$) differed significantly between control, mild, moderate, and severe groups; all other parameters were comparable. Increasing ASI severity was correlated with BCVA ($r=0.458$, $p=0.007$), HOA ($r=0.314$, $p=0.045$), and spherical aberration ($r=0.345$, $p=0.046$).

Conclusion: Persistent subepithelial infiltrates are associated with worse visual acuity, increased higher-order aberrations, and greater endothelial cell variability. Visual loss is primarily attributable to optical irregularities.

Keywords: Adenoviral subepithelial infiltrates, corneal endothelium, corneal topography, higher-order aberrations, specular microscopy

CS-7

CORRELATION BETWEEN CORNEAL TOMOGRAPHIC PARAMETERS AND EDI-OCT IMAGE QUALITY IN KERATOCONIC AND HEALTHY PATIENTS

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Abstract text

Introduction: This study aims to investigate whether corneal parameters affect the image quality of EDI-OCT in keratoconic and healthy patients.

Methods: A total of 149 eyes from 70 keratoconic and 79 healthy patients were included in the study. Patients who underwent CXL treatment and had corneal scarring were excluded. Auto Ref-keratometer measurements and BCVAs were recorded. K1, K2, Kmax, Kmean, AST, SCT, TCT, and anterior chamber depth (ACD) were measured. Axial lengths and intraocular pressures (IOP) were recorded. Keratoconus patients were staged according to the Amsler-Krumeich classification. Horizontal macula; horizontal and vertical optic disc EDI-OCT images and Q scores were recorded for each eye.

Results: The median age of keratoconus patients was 27.5, and that of healthy patients was 26. Of the patients with keratoconus and healthy patients; 55.7% were female and 44.3% were male. 47 of the keratoconus patients were stage 1. In patients with keratoconus, K1, K2, Kmax, Kmean, Ast, spherical equivalent, and ACD were higher than in healthy patients; BCVA, IOP, CCT, and TCT were lower. 57 of the keratoconic and 67 of the healthy patients had with-the-rule (WTR) astigmatism. In the keratoconus group, the median macula OCT Q score was 20, the horizontal disc OCT Q score was 19, and the vertical disc OCT Q score was 18; in healthy patients, these scores were 25, 22, and 22, respectively. In the keratoconus group, negative correlations were found between K1, K2, Kmax, and Kmean and image quality across all scans; WTR astigmatism and corneal steepening were negatively correlated with image quality. In healthy patients, K2, Kmax, and Kmean were negatively correlated with the vertical disc OCT Q score; WTR astigmatism and corneal steepening were negatively correlated with vertical disc OCT image quality. Statistical analysis was not possible for eyes with against-the-rule astigmatism.

Conclusion: As corneal steepening increases, EDI-OCT image quality decreases. With-the-rule corneal astigmatism affects image quality.

Key Words: Keratoconus, corneal tomography, optical coherence tomography, astigmatism

CS-8

CORRELATION BETWEEN CORNEAL TOMOGRAPHIC PARAMETERS AND EDI-OCT IMAGE QUALITY IN KERATOCONIC AND HEALTHY PATIENTS

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Abstract text

Introduction: Dry eye syndrome (DES) is one of the leading clinical manifestations of Sjögren's disease — a systemic autoimmune disorder that affects the exocrine glands and leads to pronounced dryness of mucous membranes. Since 1986, July 23 — the birthday of Henrik Sjögren — has been recognized worldwide as the official Day of Patients with Sjögren's Disease. The prevalence of the disease in the general population ranges from 0.1% to 3.3%, and among individuals over 50 years of age it reaches up to 4.8%. Sjögren's disease is 10–25 times more common in women than in men and usually manifests between the ages of 20 and 50. Although up to 2% of the adult population is affected, more than half of patients remain undiagnosed, even when characteristic symptoms such as parotid gland enlargement, dry eyes, dry mouth, Raynaud's phenomenon, arthralgia, and dry skin are present.

Purpose: To demonstrate the effectiveness of punctal plugs in the treatment of severe dry eye syndrome in a patient with suspected Sjögren's disease.

Clinical Case: A 49-year-old female presented with complaints of severe ocular dryness, burning sensation, foreign body sensation, and reduced visual comfort, which worsened toward the evening. Her history included xerostomia, dry skin, episodes of Raynaud's phenomenon, and arthralgia. Based on the combination of symptoms, Sjögren's disease was suspected. At the initial examination, the Schirmer test result was 0–1 mm, with pronounced corneal staining on fluorescein. Standard therapy (artificial tears, lid hygiene, and anti-inflammatory drops) provided insufficient relief. After insertion of silicone punctal plugs into the lower lacrimal puncta, gradual improvement in subjective symptoms was observed. After 2 months, the patient reported no significant complaints and noted improved ocular comfort. The Schirmer test increased to 10–12 mm, with marked reduction in corneal staining and improved tear film stability.

Conclusion: The use of punctal plugs is an effective method for managing dry eye syndrome in patients with confirmed or suspected Sjögren's disease. This approach enhances tear film retention and stability, reduces subjective discomfort, and improves patients' quality of life, especially in cases where conventional therapy provides insufficient results.

CS-9

A CASE REPORT OF OCULOFACIAL ROSACEA COMPLICATING TO CORNEAL INFILTRATES AND VASCULARISATION

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Abstract Text:

Introduction: Ocular manifestations occur in approximately 3% to 58% of patients with rosacea. The severity ranges from mild blepharoconjunctivitis to vision-threatening corneal involvement, including vascularization, thinning, and perforation. Severe rosacea keratitis typically affects the inferior cornea and may compromise vision. The cause of inferior peripheral corneal thinning in rosacea is not fully understood. It may result from chronic inflammation and stromal degradation due to matrix metalloproteinases present in the inferior tear meniscus. Loss of extracellular matrix in this region can lead to corneal thinning and steepening, mimicking keratoconus. Ocular surface dysbiosis is increasingly recognized as a contributing factor in ocular rosacea. Alterations in the normal eyelid and ocular surface microbiota can promote chronic inflammation and are closely associated with posterior blepharitis and meibomian gland dysfunction. Management of ocular surface dysbiosis is also important, as its treatment may help reduce inflammation and prevent exacerbations of ocular rosacea.

Purpose: To report a case of a 17-year-old male with severe and persistent ocular rosacea presenting with corneal infiltrates, vascularization, posterior blepharitis, ocular surface dysbiosis and inferior corneal thinning. The condition was associated with high asymmetric astigmatism and pseudokeratoconus features.

Methods: The diagnosis was based on both ocular and facial findings. Ocular signs included lid margin erythema and telangiectasia, meibomian gland dysfunction, corneal vascularization, and infiltrates. Facial findings included erythematous papulomacular lesions and telangiectasia. The patient was treated with systemic doxycycline. Ocular treatment included topical antibiotic-steroid combination therapy, tacrolimus, cyclosporine, lubricants, and eyelid hygiene.

Results and Conclusion: The patient showed clinical improvement with stabilization of lesions, although complete resolution was not achieved. Ocular rosacea, if not treated promptly, may progress to corneal infiltrates and vascularization, potentially leading to vision impairment.

Key Words: Ocular rosacea, corneal infiltrates, blepharitis, pseudokeratoconus, ocular surface dysbiosis

CS-10

UNUSUAL CASES OF DSAEK

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Abstract text

Introduction / Background: Descemet Stripping Automated Endothelial Keratoplasty (DSAEK) is a contemporary corneal transplantation technique that replaces diseased endothelium and posterior stroma with a microkeratome-prepared donor graft. Compared with penetrating keratoplasty, it results in less surgical trauma, faster visual recovery, and fewer intra- and postoperative complications. Common indications include bullous keratopathy, Fuchs endothelial dystrophy, and endothelial failure of corneal grafts.

Methods: Three patients with endothelial insufficiency were treated with DSAEK in situations complicated by anatomical особенностями or previous ocular surgery. The first clinical case involved bullous keratopathy developing years after artificial iris implantation. The second clinical case involved endothelial decompensation following posterior chamber intraocular lens implantation. The third clinical case involved a patient who had previously undergone two DSAEK procedures, with visual rehabilitation achieved only after penetrating keratoplasty. In all cases, individualized modifications of graft insertion and fixation techniques were performed.

Results: All patients achieved stable graft attachment, restoration of corneal clarity, and significant improvement in visual acuity. No clinically significant postoperative complications were observed.

Conclusions: DSAEK remains an effective treatment for endothelial corneal pathology even in complex anatomical settings. Tailored surgical modifications expand its applicability while preserving the advantages of the technique.

Key Words: Descemet Stripping Automated Endothelial Keratoplasty (DSAEK), bullous keratopathy, Corneal endothelial graft failure, rekeratoplasty

CS-11

MEDICATION CORRECTION AFTER CROSSLINKING SURGERY

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Abstract text

Introduction: To evaluate the clinical and functional effectiveness of combination therapy (Wobenzym and Oftalmoferon) in comparison with the standard treatment protocol for the prevention of postoperative complications after CXL in patients with stage I–II keratoconus.

Materials and Methods: The study included 75 patients (150 eyes), divided into three groups.

Results: The third group demonstrated the fastest time for epithelialization (3.1±0.5 days) and pain relief (2.6±0.3 hours) compared to the control group (6.5±0.4 and 5.6±0.2 hours, respectively). The tear film breakup time normalized faster in the third group (6.8±1.5 days) compared to the control group (10.4±1.2 and 15.6±1.3 days). The incidence of postoperative complications was lower in the third group (8%) compared to the control group (20%). The dynamics of vision of the corrected visual acuity improved from 0.4±0.03 to 0.6±0.05 after 2 years.

Conclusion: Combination therapy with Wobenzym and Oftalmoferon demonstrated significant superiority over the standard protocol: accelerates corneal epithelialization by 2 times, reduces the duration of pain by 54%, reduces the frequency of dry eye syndrome to 0% and slow regeneration to 8%, normalizes tear film stability 2-3 times faster. The obtained data confirm that the inclusion of immunomodulatory and regenerative drugs in postoperative therapy after CXL is clinically justified and improves the quality of rehabilitation of patients with keratoconus.

Key Words: crosslinking, cornea, keratoconus, biomicroscopy

CS-12

EFFECTS OF MITOMYCIN C ON OCULAR SURFACE AND TEAR FILM PARAMETERS AFTER PHOTOREFRACTIVE KERATECTOMY

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Abstract text

Background: This study evaluated the effects of intraoperative mitomycin C (MMC) use on tear film quality and ocular surface parameters following photorefractive keratectomy (PRK).

Methods: This prospective study included 44 eyes undergoing PRK between 2024 and 2025. Based on ablation depth, MMC was applied intraoperatively in 20 eyes, while 24 eyes did not receive MMC. Ablation depth and cycloplegic autorefraction were recorded. Tear film and ocular surface parameters included Schirmer test, corneal staining, tear break-up time(T-BUT), Meibomian gland loss, surface regularity index, surface asymmetry index, and root mean square higher- order aberrations. All parameters were evaluated preoperatively and at postoperative month 3.

Results: Mean ablation depth was 63.5 ± 25.2 µm. Ablation depth was significantly associated with MMC application time (p=0.002). Mean ablation depths were 61.5µm, 81.9µm and 104.5µm for MMC exposure times of 20,30 and 45 seconds, respectively. T-BUT decreased significantly postoperatively in all eyes, with a greater reduction in the MMC group (p<0.0001). Schirmer test values showed no significant pre- and postoperative differences and were unaffected by MMC use (p=0.436). Meibomian gland loss increased significantly after PRK in all groups (p<0.001) with greater loss observed with longer MMC exposure.

Conclusion: Longer MMC application during PRK is associated with deeper ablation and increased Meibomian gland loss. MMC negatively affects T-BUT but does not significantly influence Schirmer test results or corneal surface indices. MMC exposure duration should be carefully considered to preserve ocular surface health after PRK.

Acknowledgment: I would like to thank Prof. Dr. Onder Ayyildiz and Dr. Guldane Keles for their support during my work at the Gülhane Training and Research Hospital, Department of Ophthalmology, Ankara, Türkiye.

Key Words: dry eye disease, meibography, mitomycin C, photorefractive keratectomy, Schirmer test

CS-13

CORNEAL TEAR WITH IRIS PROLAPSE: A DELAYED SURGICAL APPROACH AND FAVOURABLE OUTCOME

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Abstract text

Introduction/Background: Open globe injuries, including corneal tears with iris prolapse, are ophthalmic emergencies requiring prompt surgical intervention. The standard of care recommends repair within 24–72 hours to minimise risks of infection, astigmatism, and secondary glaucoma. However, delayed presentation due to masked symptoms poses a diagnostic and management challenge. We report a case in which atypically mild pain and associated systemic injuries led to a 10-day delay in surgical repair, yet resulted in a favourable visual outcome.

Methods: A retrospective case report of a 34-year-old female with no prior ocular history who sustained a full-thickness corneal tear with iris prolapse following a road traffic accident. She was admitted to a trauma department for concussion and facial soft tissue injuries, during which she received systemic analgesics, broad-spectrum antibiotics, and tetanus prophylaxis. Ocular complaints were absent throughout the trauma admission. First ophthalmological assessment was performed six days after the trauma, with formal ophthalmology admission and surgical repair 10 days after the initial trauma.

Results: Slit-lamp examination revealed a full-thickness corneal tear at the 3 o'clock limbal position with iris prolapse, pupillary deformation, and mixed conjunctival injection. Preoperative visual acuity in the affected eye (OD) was 0.8 (20/25; LogMAR 0.1) and intraocular pressure was 18 mmHg, with a clear anterior chamber. Surgical repair included removal of an exudative membrane, repositioning of viable uveal tissue, irrigation with dexamethasone and lincomycin, continuous 10-0 corneal suturing, intracameral dexamethasone, and subconjunctival antibiotics. Postoperatively, visual acuity remained stable at 0.8 (20/25), IOP was 17 mmHg, and no signs of infection or significant inflammation were observed at two weeks.

Conclusions: This case demonstrates that the absence of pain does not exclude severe ocular trauma, likely attributable to nerve transection at the wound site and an iris plug effect reducing aqueous leakage. Systemic analgesic coverage and periorbital oedema may further obscure the diagnosis. Despite a 10-day surgical delay, a satisfactory visual outcome was achieved, suggesting that in select cases with spontaneous wound tamponade, delayed repair can still yield acceptable results. Early ophthalmological evaluation following any facial or head trauma remains essential to prevent delayed diagnosis of vision-threatening injuries.

CS-15

STEP BY STEP DESCEMET MEMBRANE ENDOTHELIAL KERATOPLASTY

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Abstract Text:

Preparing a Descemet Membrane Endothelial Keratoplasty (DMEK) requires a standardized, step-by-step approach to navigate the steep learning curve effectively.

1. Preoperative and Donor Selection

Successful DMEK begins with choosing donors aged >50 years, as their tissue forms less tight scrolls, making unfolding easier. Donor tissue is prepared via manual stripping; the Descemet membrane (DM) is stained with Trypan Blue and marked (e.g., an "F" stamp or asymetrical semicircles) to ensure correct orientation in the eye.

2. Recipient Bed Preparation

The diseased host DM is removed through descemetorhexis. This is ideally performed under air for superior visualization of remnants. If bullous keratopathy obscures the view, epithelial debridement (abrasio) can improve clarity. All viscoelastic substances must be thoroughly removed, as remnants prevent graft adherence. To prevent postoperative pupiller block, a peripheral iridotomy is performed at the 6 o'clock position.

3. Graft Injection and Unfolding

The donor EDM roll is loaded into a glass injector and injected into the anterior chamber (AC). Unfolding is achieved using "no-touch" maneuvers, primarily gentle tapping on the corneal surface to generate fluid waves that unscroll the graft. Orientation is verified using the Moutsouris sign or orientation marks.

4. Tamponade and Postoperative Care

Once unscrolled and centered, the graft is fixed against the host stroma using 20% SF6 (Sulfur Hexafluoride) gas. SF6 lasts longer than air, significantly reducing graft detachment and re-bubbling rates. Patients must maintain a strict supine position for 4–5 days post-surgery to ensure the bubble maintains pressure on the graft.

Conclusion: DMEK has very successful anatomical and visual results in the treatment of endothelial insufficiency.

CS-16

XENOPLASTY FOR PTERYGIUM

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Abstract Text:

This work provides an assessment of xenotransplantation in surgical treatment of pterygium.

The study included 35 patients with pterygium grades II and V. Patients with grades III and V of pterygium were operated using a xenograft without suture fixation.

The technique is easy to perform, separation of the head and body of the pterygium from the cornea, limbus and sclera. and subsequent seamless placement of a strip of xenograft in place of the excised pterygium body allowed to optimize the operation and reduce the volume of surgical intervention.

The use of xenograft in surgery of primary and recurrent pterygium stage 11–U allows to prevent relapse of pterygium and allows autotransplantation of one's own conjunctiva without organ-destructive surgery, creating a barrier to re-growth of pterygium.

Optics coherent tomography allowed to objectively evaluate xenoplasty in pterygium by the state of the cornea before and in the postoperative period.

Key Words: pterygium, xenograft, optical coherence tomography, tear crystallography

CS-17

MANAGEMENT OF POSTTRAUMATIC CORNEAL COMPLICATIONS

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Abstract text:

The most frequent trauma-related complication affecting the cornea is scarring. At this stage, it is necessary to decide whether keratoplasty or conservative treatments are appropriate for patients with insufficient visual acuity. (At this stage, we have to decide whether keratoplasty is indicated or not.)

This 56-year-old patient, travelling from Cyprus to Ankara, was referred for keratoplasty. He had visual acuity limited to hand motions because of ectopic pupil due to synechia in the superior quadrant under a corneal scar. Both the patient and relatives insisted on keratoplasty. After dilation of pupil, vision improved to 0.5 with spectacle correction and 1.0 with a RGP lens. Instead of keratoplasty we decided to do optical sector iridectomy. Because the patient was a woodcutter at risk of re-injury, had a clear inferior paracentral cornea and needed to travel overseas for regular follow-ups and for emergency situations. First, the synechiae was released and small sphincterotomy incisions were made, however these incisions were not sufficient reform a sufficient pupillary opening. Thus, a thin strip of iris was excised to enlarge and shift the pupil inferiorly to the clear corneal area. After optical sector iridectomy, corrected visual acuity improved to 0.7.

This is a pediatric case, coming from 600 kms with a vertical linear corneal scar, damaged iris and aphakia. In this case, we decided not to do keratoplasty because of low graft survival rates and increased risk of re-injury in children and the challenges of long-distance travel for follow-up and emergencies. After fixation of IOL haptics to the sclera, the pupil was reconstructed using one-pass four throw technique, with one superior suture and two inferior sutures Pupil was further displaced nasally with several sphincterotomy incisions. After sfiol and pupilloplasty, UCVA improved to 0.4, avoiding lifelong dependence on cornea clinic and major keratoplasty risks.

In cases of corneal edema, endothelial keratoplasties are generally preferred to penetrating grafts, even when mild corneal scarring is present. This preference is due to the reduced incidence of rejection and suture-related complications such as astigmatism and infection, as well as a decreased requirement for steroids and associated adverse effects. Endothelial keratoplasty is the best option for this case with corneal edema, large pupil, with IOL placed in sulcus. After simultaneous pupillary reconstruction and Descemet membrane endothelial keratoplasty, corrected visual acuity increased to 0.7. The best option for this geriatric patient with corneal edema, large pupil and scleral fixated iol is also endothelial keratoplasty. We need a strong barrier between anterior and posterior chambers to keep the Descemet graft in AC and to prevent it from falling deep into the vitreus. To strenghten this barrier, a smaller pupil was reformed by suturing the iris with two sutures.

CS-18

TIME COURSE OF ENDOTHELIAL CELL LOSS FOLLOWING DESCEMET MEMBRANE ENDOTHELIAL KERATOPLASTY

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Abstract Text:

Introduction: Preservation of endothelial cell density (ECD) is essential for long-term graft survival after Descemet membrane endothelial keratoplasty (DMEK). This study aimed to evaluate postoperative changes in endothelial cell density and to determine the period of greatest cell loss after DMEK.

Methods: Medical records of patients who underwent DMEK or triple DMEK were retrospectively reviewed. For each patient, best-corrected visual acuity (BCVA), intraocular pressure (IOP), central corneal thickness (CCT), and ECD were recorded preoperatively and at 1, 3, 6, and 12 months postoperatively. Donor corneal ECD and donor age were also documented.

Results: A total of 84 eyes from 77 patients were included in the study. The mean age was 69.35 ± 9.91 years. 13 eyes were phakic, 58 pseudophakic (in-the-bag), 4 in sulcus, 8 scleral-fixated, and 1 aphakic. A total of 5 eyes underwent triple DMEK, whereas 79 eyes received DMEK only. The mean donor age was 51.77 ± 7.57 years (range, 34–68 years), and the mean donor ECD was 2878.96 ± 305.73 cells/mm². At postoperative month 1, the mean ECD decreased to 1804.95 ± 504.95 cells/mm², showing a statistically significant reduction ($p=0.004$). Subsequent measurements at 3, 6, and 12 months (1666.72 ± 412.80, 1554.81 ± 490.27, and 1358.94 ± 466.18 cells/mm², respectively) did not differ significantly ($p>0.05$). Preoperative and 1-month postoperative BCVA values were 1.70 ± 0.77 and 0.86 ± 0.63 LogMAR, respectively, showing a significant improvement ($p<0.001$). CCT also significantly decreased from 730.26 ± 100.59 µm preoperatively to 536.27 ± 59.67 µm at 1 month ($p<0.001$). The mean IOP was 14.10 ± 4.17 mmHg preoperatively and 13.07 ± 5.07 mmHg at 1 month, with no significant difference ($p=0.642$).

Conclusion: The study demonstrated that the most significant endothelial cell loss occurred at 1 month ($p=0.019$), while subsequent follow-ups showed no statistically significant changes. This early decline is likely attributable to surgical manipulation and the immediate postoperative adaptation process of the donor endothelium.

CS-19

EVALUATION OF CORNEAL ENDOTHELIUM WITH SPECULAR MICROSCOPY IN CLEAR GRAFTS AFTER DEEP ANTERIOR LAMELLAR KERATOPLASTY

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Abstract text

Introduction: In patients with keratoconus (KC), macular corneal dystrophy (MCD), lattice corneal dystrophy (LCD), and corneal scarring, a reliable preoperative evaluation of endothelial function is not always possible. This study aimed to assess postoperative endothelial cell function in eyes that underwent DALK for these conditions, to determine whether the underlying pathology affects endothelial outcomes, whether endothelial loss remains within physiological limits, and whether graft transparency can be predictably maintained.

Methods: Records of 55 eyes from 55 patients who underwent DALK for KC, MCD, LCD, or corneal scarring between 01.01.2014 and 31.12.2023 were retrospectively reviewed. As a control group, records of 56 eyes from 56 healthy individuals presenting to the outpatient clinic were evaluated. Specular microscopy measurements of both groups were analyzed. Comparisons were made between patient and control groups, as well as among diagnostic subgroups within the patient cohort.

Results: Compared with the control group, the patient group demonstrated a statistically significant reduction in endothelial cell density (p < 0.0001). When endothelial cell densities of the KC, MCD, LCD, and corneal scar subgroups were compared, no statistically significant difference was detected (p = 0.367).

Conclusion: Although all diagnostic groups showed reduced endothelial cell density compared with controls after DALK, there was no significant difference among the subgroups. Despite the potential for endothelial involvement in MCD, adequate endothelial function was observed in these patients. Therefore, similar to KC and LCD, patients with MCD should also be considered suitable candidates for DALK.

Keywords: DALK, Keratoconus, Macular corneal dystrophy, Lattice corneal dystrophy.

CS-20

COMPARISON OF VISUAL OUTCOMES OF SCLERAL LENS APPLICATION IN KERATOCONUS EYES WITH AND WITHOUT KERATOPLASTY

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Abstract text

Introduction: To evaluate visual outcomes, corneal topography characteristics, and scleral lens fitting parameters in keratoconus patients using scleral contact lenses (SLs), comparing individuals with and without prior keratoplasty (KP), and to assess the role of scleral lenses in visual rehabilitation across different disease stages.

Methods: This retrospective comparative study included keratoconus patients fitted with scleral lenses and categorized according to keratoplasty status. Pre-lens and scleral lens–corrected best-corrected visual acuity (BCVA), corneal topography parameters obtained using Pentacam imaging, keratoconus staging based on Amsler–Krumeich and ABCD classifications, and scleral lens fitting characteristics were analyzed. Patients were fitted with five scleral lens designs (ICD Flexfit, Misa, Smartlens, Scleraflex, and LCS-AKS). Intergroup comparisons were performed to identify differences in anatomical parameters and visual outcomes.

Results: A total of 437 keratoconus patients were included, comprising 64 patients with prior keratoplasty and 373 without. The KP group was significantly older (41±12 vs 32.7±5 years; $p<0.001$). Pre-lens BCVA was significantly worse in the KP group (0.87±0.49 logMAR) compared with the non-KP group (0.62±0.39 logMAR) ($p<0.001$); however, post-lens BCVA was comparable between groups (0.13±0.18 vs 0.15±0.31 logMAR; $p=0.539$). Significant intergroup differences were observed in maximum and mean keratometry, corneal astigmatism, central and thinnest corneal thickness, and sagittal lens depth ($p<0.001$). Mean sagittal depth measured 3975±617 µm in the KP group and 4201±590 µm in the non-KP group. Visual outcomes were not significantly influenced by lens brand.

Conclusion: Scleral lenses provide robust and consistent visual rehabilitation in keratoconus patients regardless of keratoplasty status. Despite marked baseline anatomical differences, equivalent post-lens visual acuity underscores the capacity of scleral lenses to neutralize corneal irregularity and optimize visual performance. These findings reinforce the pivotal role of scleral lenses both in post-keratoplasty rehabilitation and as a strategy to potentially delay surgical intervention through effective management of corneal astigmatism and irregularity.

Key Words: Keratoconus, Scleral contact lenses, Post-keratoplasty visual rehabilitation, Corneal topography analysis, Irregular corneal astigmatism

CS-21

EVALUATION OF THE EFFECTIVENESS OF AMNIOTIC MEMBRANE SURFACE RECONSTRUCTION ALONE OR COMBINED WITH KERATOPLASTY IN THE TREATMENT OF CORNEAL MELTING

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Abstract text

Introduction: To evaluate the etiologies, clinical features, surgical management approaches, and visual outcomes of patients diagnosed with corneal melting.

Materials and Methods: The medical records of 38 patients with corneal melting were retrospectively reviewed. Data collected included age, sex, etiology, perforation location and size, presence of iris prolapse, type of surgical intervention amniotic membrane transplantation (AMT), keratoplasty, or corneal patch graft and postoperative visual outcomes and complications.

Results: The study included 17 males and 21 females, with a mean age of 57.4 years and a mean follow-up of 10.4 months. Etiological factors were active keratitis (26%), previous infection (19%), exposure keratopathy (13%), autoimmune disease (13%), toxic keratopathy (10%), dellen ulcer (8%), neurotrophic ulcer (8%), and foreign body (3%). The melt was paracentral in 55% and central in 45% of cases. Mean defect size measured 2.96 mm vertically and 3.11 mm horizontally. Full-thickness corneal defects were present in 20 patients at presentation. AMT alone was performed in 17 patients, while 13 underwent combined AMT and keratoplasty. Penetrating keratoplasty alone was performed in 2 patients, corneal patch graft alone in 1, and AMT with patch graft in 5 patients. The mean final best-corrected visual acuity was 1.58 logMAR. Recurrent melting occurred in 4 patients, graft rejection in 1, evisceration in 1, and corneal scarring in 3.

Conclusion: The primary goal in corneal melting management is to preserve globe integrity and support visual recovery. AMT aids in preventing perforation and closing small (<2 mm) full-thickness defects, while providing temporary structural support in larger defects. For central or paracentral full-thickness melts >2 mm, keratoplasty is the preferred option when donor tissue is available; peripheral melts can be effectively managed with a corneal patch graft.

Key Words: Amniotic membrane, corneal melting, patch greft, keratoplasty

CS-22

A NEW BIOLOGICAL APPROACH TO OCULAR SURFACE DISEASES: TOPICAL INSULIN THERAPY

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Abstract text

Ocular surface diseases represent a heterogeneous group of disorders characterized by epithelial instability, impaired wound healing, inflammation, and compromised visual function. Despite advances in conventional therapies such as artificial tears, anti-inflammatory agents, and biological products, a subset of patients remains refractory to treatment.

In recent years, topical insulin therapy has emerged as a novel biological approach with promising therapeutic potential for ocular surface disorders. Insulin is a pleiotropic hormone with well-established roles in cellular metabolism, proliferation, and tissue repair. Insulin receptors are expressed on corneal and conjunctival epithelial cells, where insulin signaling promotes epithelial cell migration, proliferation, and differentiation. Experimental and clinical studies have demonstrated that topical insulin enhances corneal epithelial wound healing by activating the phosphoinositide 3-kinase (PI3K)/Akt and mitogen-activated protein kinase (MAPK) pathways, leading to improved epithelial integrity and barrier function.

Clinically, topical insulin has been investigated in various ocular surface conditions, including persistent epithelial defects, neurotrophic keratopathy, diabetic keratopathy, and post-surgical epithelial healing disorders. Case series and small clinical studies suggest that insulin eye drops can accelerate epithelial closure, reduce defect size, and improve patient symptoms, often in cases unresponsive to standard therapies. Importantly, topical insulin is generally well tolerated, with minimal local or systemic adverse effects reported.

Compared with other biological treatments such as autologous serum or platelet-rich plasma, topical insulin offers practical advantages, including lower cost, ease of preparation, and widespread availability. However, challenges remain regarding optimal concentration, dosing frequency, formulation stability, and long-term safety.

Larger, well-designed randomized controlled trials are needed to establish standardized treatment protocols and to define the precise role of topical insulin within the therapeutic algorithm of ocular surface diseases. In conclusion, topical insulin therapy represents an innovative and biologically sound strategy for enhancing ocular surface repair. With further clinical validation, it may become a valuable adjunct or alternative in the management of refractory ocular surface diseases.

Key words: Topical insulin therapy, Ocular surface diseases, Corneal epithelial wound healing, Neurotrophic keratopathy, Biological treatment

CS-23

PERSISTENT EPITHELIAL DEFECT

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Abstract text:

A 42-year-old female patient was referred for evaluation of bilateral recurrent epithelial defects. Initial episodes of epithelial erosion were managed with lubricating agents, hypertonic saline, and therapeutic contact lenses. Several months later, the patient re-presented with similar symptoms. Based on the clinical appearance at that time, neurotrophic keratitis was suspected, and topical insulin eye drops were initiated. A neurology consultation was also obtained. Although clinical improvement was achieved, the patient subsequently experienced repeated recurrences, for which bandage contact lenses and topical insulin therapy were reinstated. During one of the patient's visits for recurrent corneal erosion, it was noted after the examination that a topical anesthetic bottle had gone missing from the examination room. Upon inspection of the patient's bag, a bottle of Alcain was discovered. This finding revealed that the underlying cause of the persistent epithelial defect was, in fact, topical anesthetic abuse. The patient was subsequently managed with appropriate interventions, including psychological support.

CS-24

MODERN APPROACHES TO THE TREATMENT OF CORNEA INFLAMMATORY PROCESSES

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Abstract text:

Background: Corneal inflammatory processes are a common cause of ocular morbidity. Effective and safe treatments are being developed worldwide, including biofilm-based ocular films. Novacel Ziyo is a domestic ophthalmic film composed of a polycomposite polymer material, exhibiting biocompatibility, biodegradability, elasticity, antimicrobial activity, and absence of cytotoxic effects. This study aimed to compare the clinical effectiveness and safety of Novacel Ziyo with traditional treatments.

Methods: Twenty-five patients with anterior eye surface lesions, aged 35 ± 9.2 years (56% men, 44% women), were treated at the Department of Eye Diseases, Clinic of Andijan State Medical Institute, Andijan, Uzbekistan. Patients were assigned to two groups: Group I (10 patients) received Novacel Ziyo ophthalmic film, and Group II (15 patients) received standard therapy. Inflammatory activity was assessed using a 3-point scale (Maychuk Yu.F., Vakhova E.S.). Outcomes were evaluated on day 7 post-treatment.

Results: Etiologically, post-inflammatory keratitis accounted for 48%, post-traumatic keratitis 44%, and postoperative keratitis 8%. By day 7, Group I showed a 1.5-fold greater reduction in inflammatory activity compared with Group II. The Novacel Ziyo film demonstrated effective bactericidal activity and improved clinical outcomes, with no reported adverse effects.

Conclusions: Novacel Ziyo ophthalmic film is an effective and safe option for treating corneal inflammatory processes, providing superior reduction in inflammatory activity compared with traditional therapy. These preliminary results support further investigation with larger patient cohorts to confirm its therapeutic benefits.

Key Words: Corneal inflammatory processes, domestic ophthalmic film, treatment, anterior segment of the eye

CS-25

EVALUATION OF AGE-RELATED CHANGES IN CORNEAL BIOMECHANICS: A CORVİS-ST ANALYSIS

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Abstract Text:

Introduction-Background: The cornea is a viscoelastic structure whose biomechanical integrity is essential for maintaining refractive stability and resisting deformation induced by intraocular pressure (IOP). Age-related structural and biochemical alterations in collagen-rich tissues, including increased collagen cross-linking, reduced stromal hydration and thickening of posterior corneal layers may influence corneal stiffness and dynamic behavior. Advances in dynamic Scheimpflug imaging, particularly with the Corvis ST system, allow in vivo quantitative assessment of corneal biomechanical responses. However, data regarding physiological age-related biomechanical changes in healthy eyes remain limited. This study aimed to evaluate age-related variations in corneal biomechanical properties in a healthy population using Corvis ST measurements and to analyze their correlation with age.

Methods: This cross-sectional study included 184 eyes of healthy individuals. Participants were stratified into age groups to assess age-related differences in corneal biomechanical parameters. Refractive error, white-to-white (WTW) corneal diameter, anterior chamber depth (ACD), central corneal thickness (CCT) were recorded. Corneal biomechanical metrics obtained from the Corvis ST (Oculus, Wetzlar, Germany) included A1 length, A1 time, A1 velocity, A2 length, A2 time, A2 velocity, peak distance, highest concavity (HC) radius, HC time, and deformation amplitude (DA). Pearson correlation coefficients were used to evaluate associations between age and biomechanical parameters.

Results: Significant age-related differences were observed in spherical refraction, WTW, ACD, uncorrected IOP and CCT (all $p<0.05$). Among biomechanical parameters, A1 length ($p=0.043$), A1 time ($p<0.001$), A1 velocity ($p=0.019$), A2 time ($p=0.007$), A2 velocity ($p=0.005$), HC radius ($p=0.012$), and DA ($p=0.018$) varied significantly across age groups. Increasing age was associated with reduced corneal deformability and greater biomechanical stiffness. Age showed negative correlations with ACD ($r=–0.352$, $p<0.001$) and A2 time ($r=–0.243$, $p=0.001$) and a positive correlation with A1 time ($r=0.173$, $p=0.019$).

Conclusions: Advancing age is associated with measurable alterations in corneal biomechanical properties, likely reflecting cumulative stromal remodeling and increased resistance to deformation. These findings support the concept that physiological aging induces progressive biomechanical stiffening of the cornea.

Key Words: Age, Corneal biomechanics, Corvis ST, Deformation amplitude, Healthy populatio

FFA: FUNDUS FLUORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-1

AN UNEXPECTED GUEST IN THE DEPTH: A CASE PRESENTATION

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Abstract Text:

Introduction / Background: Focal choroidal excavation (FCE) is a rare choroidal abnormality characterized by a localized concavity of the choroid without scleral involvement. It is typically unilateral and detected in otherwise healthy individuals. Although most cases are asymptomatic, FCE may rarely be complicated by choroidal neovascularization (CNV), which can result in significant visual impairment. Early recognition using multimodal imaging techniques is essential for accurate diagnosis and appropriate management. The purpose of this presentation is to highlight the diagnostic and therapeutic aspects of rare FCE cases and their associated complications, such as CNV.

Methods: This study presents a single-patient case report evaluated using multimodal imaging techniques.

Results: A 17-year-old female presented with decreased vision and metamorphopsia in the left eye. There was no history of ocular trauma or systemic disease. Best-corrected visual acuity was 1.0 in the right eye and 0.1 in the left eye. Intraocular pressure and anterior segment examinations were normal in both eyes. Fundus examination of the left eye revealed a yellowish, irregular lesion in the macular region. Optical coherence tomography demonstrated focal choroidal excavation, while optical coherence tomography angiography revealed the presence of subclinical choroidal neovascularization. The patient was treated with three intravitreal anti-vascular endothelial growth factor injections. Follow-up imaging showed regression of the neovascular membrane. Final visual acuity remained 0.1, with a marked reduction in metamorphopsia. The patient is currently under monthly follow-up.

Conclusion: Focal choroidal excavation is a rare, usually unilateral choroidal abnormality with uncertain etiology. Although typically asymptomatic, complications such as CNV can cause significant visual loss. This case highlights the importance of multimodal imaging, particularly OCTA, in detecting FCE-associated CNV and demonstrates the effectiveness of anti-VEGF therapy in management.

Key words: focal choroidal excavation, subclinical choroidal neovascularization, OCTA, anti-VEGF, case report

FFA: FUNDUS FLUORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-2

GRANULOMATOUS TRACES AND SILENT ISCHEMIA

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Abstract Text:

Purpose: To describe a rare case of polycythemia vera (PV) presenting with granulomatous retinal arteritis and vitreous inflammation, highlighting the inflammatory mechanisms contributing to ocular involvement.

Methods: A 39-year-old male with a two-year history of right-eye floaters underwent detailed ophthalmic examination, including fundus photography, fluorescein angiography (FFA), and optical coherence tomography (OCT). Systemic and laboratory evaluations were performed to exclude infectious, autoimmune, and hematologic causes.

Results: Fundus examination revealed multiple cream-white nodular lesions around retinal arteries, retinal microhemorrhages, hard exudates, and peripheral ischemia. FFA demonstrated nodular hyperfluorescence, arteriovenous anastomoses, and widespread peripheral hypofluorescence. OCT showed inner retinal hyperreflective dots, mild thinning, and vitreous HRDs. Systemic work-up excluded infectious and autoimmune etiologies. Hematologic analysis identified elevated erythrocyte levels and a JAK2 exon 14 V617F mutation (3.3873%), confirming PV. Oral corticosteroid therapy resulted in the resolution of vitreous inflammation, and focal laser photocoagulation was applied to ischemic retinal areas.

Conclusion: This case demonstrates that chronic inflammation and endothelial activation in PV can lead to granulomatous retinal arteritis and vitreous inflammation. To the best of our knowledge, this represents the first documented ocular manifestation of PV with granulomatous retinal arteritis.

FFA: FUNDUS FLUORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-3

OPTIC DISC PIT MACULOPATHY WITH SEROUS MACULAR DETACHMENT: A CLINICAL CASE REPORT

Kardelen Camber, Cahit Burke

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Abstract Text:

Introduction: Optic disc pit maculopathy (ODPM) is a rare congenital anomaly of the optic nerve that may lead to serous macular detachment and significant visual impairment. This case report describes the clinical presentation, imaging findings, and surgical management of a young woman who developed acute visual loss due to ODPM.

Methods: A 27yearold female presented with sudden visual loss in her left eye. A comprehensive ophthalmologic evaluation was performed, including bestcorrected visual acuity (BCVA), intraocular pressure measurement, slitlamp biomicroscopy, dilated fundus examination, color fundus photography, fundus autofluorescence (FAF), fluorescein angiography (FFA), and optical coherence tomography (OCT). Based on the diagnosis of optic disc pit maculopathy, the patient underwent pars plana vitrectomy (PPV) with gas tamponade. Followup imaging revealed recurrence of subretinal fluid, prompting a second PPV with silicone oil tamponade.

Results: At presentation, visual acuity was 10/10 in the right eye and finger counting at 3 meters in the left eye. Fundus examination showed a temporal optic disc pit with associated serous macular detachment in the left eye, while the right eye was normal. FAF demonstrated hyperautofluorescence corresponding to the detached macular area, and FFA showed mild late leakage from the optic disc. After PPV with gas tamponade, the patient's lefteye vision remained limited to handmotion perception, and OCT revealed recurrent subretinal fluid. A second vitrectomy with silicone oil tamponade was performed, and postoperative outcomes are currently pending.

Conclusion: This case highlights the challenging and recurrent nature of optic disc pit maculopathy. Despite surgical intervention, persistent or recurrent subretinal fluid may occur, requiring additional procedures. Early diagnosis, detailed imaging, and timely surgical management are essential to optimize visual prognosis in patients with ODPM.

Key words: Optic Disc Pit Maculopathy, Serous Macular Detachment, Pars Plana Vitrectomy

FFA: FUNDUS FLUORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-5

BLURRED VISION IN ONE EYE

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Abstract text:

A 69-year-old female patient presented with a complaint of sudden, painless, unilateral vision loss. Her medical history revealed a traffic accident involving head trauma without bone fracture approximately 20 days prior. A few days following the incident, she noticed blurred vision in one eye. She has no prior ocular disease or history of ocular surgery. Her only known disease is asthma and she takes only antihistamine drugs regularly. She initially presented with 10 % visual acuity and impaired color vision in the left eye. Ophthalmology examination of the right eye was completely normal. Fundus of the left eye showed blurred margins of the optic disc along with yellowish lesions in the papillomacular region. OCT of the left eye revealed subretinal fluid accompanied by increased choroidal thickness. Fluorescein angiography of the left eye showed areas of choroidal fluorescence blockage, leakage from the optic disc head and evidence of macular ischemia. Laboratory investigations, including CBC, ESR and biochemical and infectious parameters were all within normal limits. Based on these findings, an infectious etiology was considered unlikely. Given the low likelihood of infection, a subtenon injection of triamcinolone was administered to the left eye. Six days after treatment, visual acuity improved from 10% to 40%. Due to the favorable response to steroid therapy, oral prednisolone was initiated at a dose of 1 mg/kg/day. Two weeks later, visual acuity increased to 50%, and color vision had recovered. OCT imaging demonstrated complete resolution of subretinal fluid and a decrease in choroidal thickness. However, disruption of the ellipsoid zone was evident. Fundus autofluorescence imaging revealed hyperautofluorescent areas corresponding to photoreceptor dysfunction and hypoautofluorescent regions consistent with retinal atrophy. Approximately six weeks after initiation of treatment, visual acuity reached 80% and optic disc margins defined well.

FFA: FUNDUS FLUORESCEIN ANGIOGRAPHY SESSION ORAL PRESENTATIONS

FFA-6

A CROSS-CONTINENTAL DIAGNOSTIC PUZZLE

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Abstract text:

Clinical Case: A 26-year-old female with no significant past medical history presented with progressive visual loss, initially in the left eye for 14 days, followed by involvement of the right eye over the preceding 2 days. On examination, best-corrected visual acuity (BCVA) was 0.6 in the right eye (OD) and 0.05 in the left eye (OS). Intraocular pressure was 14 mmHg OD and 13 mmHg OS. Anterior segment examination was unremarkable bilaterally. Fundus examination revealed optic disc edema in both eyes, more pronounced in the left eye. In the right eye, there was mild vitritis (+1), perivascular sheathing, venous beading, and scattered retinal hemorrhages. The left eye demonstrated more severe findings, including marked optic disc edema, a macular star, extensive retinal hemorrhages with a preretinal component, pronounced perivascular sheathing with venous beading, and dense vitritis (+3). FFA showed bilateral vascular leakage, optic disc leakage, and areas of retinal ischemia, which were more extensive in the left eye. OCT confirmed the presence of bilateral macular edema. A comprehensive uveitis workup, including laboratory (rheumatologic and infectious panels), chest CT, and brain MRI, was performed. Results were largely unremarkable with normal ACE levels and mildly elevated inflammatory markers (CRP, ESR). Infectious screening was negative except for a strongly positive PPD test (21 mm) and a positive QuantiFERON test. Overall findings were consistent with neuroretinitis associated with occlusive retinal vasculitis, presumed to be secondary to tuberculosis after exclusion of alternative etiologies. Following chest disease consultation, the patient was initiated on standard antitubercular therapy (four-drug regimen for 2 months followed by two-drug continuation therapy for 4 months). Systemic corticosteroid therapy (prednisolone 1 mg/kg/day) was started and gradually tapered. Panretinal photocoagulation was applied to ischemic areas in both eyes. Additionally, bilateral sub-tenon triamcinolone acetonide injections were administered. Following initiation of therapy, optic disc edema and macular edema gradually resolved in both eyes. However, the patient was subsequently lost to follow-up and later represented with neovascular complications and vitreous hemorrhage in the left eye. Intravitreal bevacizumab was administered, followed by additional panretinal photocoagulation, resulting in resolution of the vitreous hemorrhage. At final follow-up, the patient remained stable, with a best- corrected visual acuity of 1.0 in the right eye and 0.6 in the left eye.

Conclusion: This case highlights that tuberculosis-associated neuroretinitis with occlusive vasculitis can present with aggressive bilateral involvement and may mimic other inflammatory or infectious conditions, making diagnosis challenging. Despite initial treatment response, progression to neovascular complications may occur. Early recognition, combined antimicrobial and anti-inflammatory therapy, and close follow-up are critical to optimize visual outcomes.

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-1

THE CAPABILITIES AND PROSPECTS OF "OFTALMOASIST" — THE FIRST ARTIFICIAL INTELLIGENCE TOOL IN THE AZERBAIJANI LANGUAGE FOR CLINICAL DECISION SUPPORT.

Emin Alihuseynli

"Assistance for Development of Modern Ophthalmology" Union, Sumgait, Azerbaijan

Abstract text

Introduction: Large language models (LLMs) are increasingly being explored in clinical decision-making, but few studies have evaluated their performance on complex ophthalmology cases from clinical practice settings. Understanding whether open-weight, reasoning-enhanced LLMs can outperform proprietary models has implications for clinical utility and accessibility

Objective: To evaluate the diagnostic accuracy and clinical decision-making performance of "OftalmoAssist", an AI-driven tool adapted to Azerbaijani - language ophthalmic terminology and based on the ChatGPT 5.2 model across multiple ophthalmic subspecialties.

Methods: This was a cross-sectional evaluation conducted using standardized prompts. Clinical cases were containing complex cases from clinical practice settings. Each case included an open-ended diagnostic question and a multiple-choice next-step decision. All cases were included without exclusions, and no human participants were involved. Data were analyzed from April 03 to April 30, 2025.

Results: A total of 422 clinical cases were included, spanning 10 ophthalmic subspecialties. "OftalmoAssist" demonstrated a diagnostic accuracy of 70.4% (297 of 422 cases) and achieved correct next-step decision recommendations in 82.7% of cases (349 of 422 cases). The system reliably generated accurate responses using Azerbaijani-language ophthalmic terminology, underscoring its potential as a robust large-language-model–based clinical decision support tool.

Conclusions: "OftalmoAssist" demonstrated reliable performance in diagnosis and clinical decision making across ophthalmic subspecialties and generated accurate responses using Azerbaijani-language ophthalmic terminology, supporting the potential of open-weight, reinforcement-learning–augmented LLMs as scalable and efficient tool for clinical decision support.

Key Words: AI, artificial intelligence, AI in ophthalmology, LLM.

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-2

ARTIFICIAL INTELLIGENCE IN OPHTHALMOLOGY

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Abstract text

Introduction / Background: Artificial intelligence (AI) has rapidly entered ophthalmic practice, driven by advances in imaging and computational power. Algorithms capable of detecting patterns in retinal photographs and other ocular data promise earlier diagnosis, improved efficiency, and expanded access to care.

Methods: We performed a narrative review of recent clinical and translational studies evaluating AI systems in ophthalmology. Peer-reviewed publications focusing on screening, diagnosis, prognosis, and workflow optimization were analyzed to summarize current capabilities and limitations.

Results:AI demonstrates high accuracy in detecting diabetic retinopathy, age-related macular degeneration, glaucoma, and retinopathy of prematurity. Automated grading systems can triage large populations, reducing clinician workload and enabling remote screening. Emerging models integrate multimodal data, including imaging, visual fields, and electronic health records, to enhance risk prediction and personalize management. However, variability in datasets, limited external validation, and algorithmic bias remain significant challenges. Regulatory, ethical, and medicolegal considerations also influence real-world deployment.

Conclusions: AI is transforming ophthalmology from reactive treatment toward proactive, data-driven care. While performance in controlled environments is promising, broader validation, transparent reporting, and clinician oversight are essential for safe adoption. Future work should prioritize generalizability, equity, and integration into clinical workflows to maximize patient benefit.

Key Words: Artificial intelligence (AI), ophthalmology, retina, glaucoma, diabetic retinopathy, retinopathy of prematurity, age related macular degeneration

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-4

QUALITY AND RELIABILITY ANALYSIS OF BLEPHAROPLASTY VIDEOS ON YOUTUBE

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[2]Hacettepe University, Faculty of Medicine, Department of Family Medicine, Ankara, Turkiye

Abstract Text:

Introduction: This study aimed to evaluate the content quality, reliability, and educational value of the most viewed blepharoplasty videos on YouTube and to identify differences based on uploader source.

Methods: The top 100 most-viewed videos were selected using the keyword 'blepharoplasty' in a search conducted in June 2025. Videos in English with voiceover/subtitles and directly related to blepharoplasty were included. Advertising content, videos solely sharing personal experiences, videos shorter than 1 minute, and technically inadequate/incomprehensible videos were excluded. Videos were independently assessed by two researchers using DISCERN, Global Quality Scale (GQS), and USEFULNESS scores. Subgroups were created based on uploader source. Statistical analyses included t-test, ANOVA, Mann-Whitney U, Kruskal-Wallis, chi-square, and correlation tests.

Results: The mean video duration was 6.8±4.2 minutes, and the mean view count was 412,530±985,214. Among uploaders, 41% were plastic surgeons, 27% were healthcare institutions, 21% were individual users, and 11% were media content creators. The mean DISCERN score was 39.4±11.2, GQS was 3.4±0.9, and USEFULNESS was 4.8±2.1. Videos uploaded by plastic surgeons had the highest quality scores, while content from individual users and media sources received the lowest scores ($p<0.05$). Positive correlations were found between video duration and DISCERN ($r=0.421$; $p=0.002$), and between view count and GQS ($r=0.389$; $p=0.004$).

Conclusion: Despite widespread accessibility, blepharoplasty videos on YouTube predominantly offer moderate quality and educational value. Deficiencies are particularly notable regarding complications, risks, and alternative treatments. Videos from physicians and institutions adhering to standardized criteria should be encouraged to provide more reliable and educational content.

Key Words: blepharoplasty, social media, video recording, patient education as topic, quality of health care

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-5

EVALUATION OF COLOR VISION IN PATIENTS WITH POSTERIOR VITREOUS DETACHMENT

Cahit Burke

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Abstract Text:

Introduction: This study is aim to determine the possible changes of colour vision in stage 4 posterior vitreous detachment.

Methods: This study was performed in 27 eyes of 27 patients who were admitted to the department of Ophthalmology in Medipol University Medical Faculty Hospital between April 2019-October 2019 and were found to have posterior vitreous detachment in one eye in stage 4. The subjects were compared between the eyes of patients who had no history of systemic diseases and any other ocular surgery that could affect color vision with acute and chronic posterior vitreous detachment in one eye and other eye was healthy. Posterior vitreous detachments of the patients were evaluated by the fundus examination and the obvious ones are included in the test with OCT and ocular USG. Patients with stage 4 posterior vitreous detachment, no other ocular or systemic disease that may affect color vision and no ocular surgery was performed in 27 patients and other healthy eyes of patients were evaluated as control group. Patients, who underwent ocular surgery, visual acuity below 9/10, advanced cataract and asymmetric lens pathology, congenital color vision defect, retinal pathology affecting color vision and glaucoma disease were not included in the test. In our study, while evaluating color vision, patients were evaluated with FM-100 Hue and CAD tests, which are the most sensitive color vision evaluation tests. When evaluating color vision, Ishihara 24 plate printing test, which is the most commonly used color vision test in practice, was used. Patients who made 1 or more errors in 15 numeric plates in the Ishhara test were accepted as suspected congenital color vision disorder and these patients were not included in the study. Blue-yellow, red-green threshold values between control and study group evaluated in CAD test. Total error scores, blue-yellow color axis error scores, red-green color axis error scores evaluated separately between control and study group in FM-100 HUE test. Results of our study were calculated with SPSS 22 statistical analyzer programme.

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-6

OUR EXPERIENCE ON USING OF PLEXR PLASMA TECHNOLOGY IN OPHTHALMOLOGY. INDICATIONS AND CONTRAINDICATIONS

Manzurakhon Rizayeva

NAZAR Eye Center LLC, MD, PhD, ophthalmologist. Oculoplastic surgeon, Tashkent, Uzbekistan

Abstract Text:

Introduction: Plexr plasma is a new promising direction in ophthalmology that treats a wide range of diseases without surgical incisions. The energy of the device acts on tissues with high precision, with minimally invasive effects and activation of the regeneration process. This is an effective method not only for cosmetic but also for ophthalmological procedures.

Objectives: To evaluate the experience of using Plexr plasma (PP) technology in ophthalmology practice and to determine the presence of indications and contraindications.

Materials and methods: The study was conducted in the outpatient setting of the Nazar Eye Center during 2025. 42 patients (68 eyes) were included in the study, of which 26 were women (61.9%) and 16 were men (38.1%). Patients ranged in age from 25 to 68 years, with a mean age of 47.3 ± 9.6 years. Clinical efficacy, complication rates, and aesthetic outcomes were analyzed.

Results. Plexr plasma technology demonstrated high efficacy in cases of blepharochalasis, xanthelasma, papilloma, milium, nevus, trichiasis, and mild eyelid skin ptosis. Patients were followed up on the 1 st, 7 th and 30 th days after treatment, and patient satisfaction was assessed using a visual analog scale (VAS). Good clinical aesthetic outcomes were observed in 33 patients (53 eyes, 21.4%). Moderate outcomes were observed in nine patients (15 eyes, 21.4%), with partial preservation of the pathological process or minimal residual changes, but no additional treatment was required. Contraindications. Patients under 18 years of age, acute inflammatory processes, infectious diseases, suspicious oncological formations, decompensated diabetes mellitus, blood coagulation disorders, pregnancy and a tendency to keloid scars.

Conclusion. If patients are properly selected, plexr plasma technology is a safe and effective minimally invasive method for the treatment of eyelid pathologies in ophthalmology.

Key Words: Plexr plasma, ophthalmology, eyelid pathology, contraindications.

GOS-7

EVALUATION OF THE USEFULNESS OF YOUTUBE VIDEOS IN GONIOSCOPY-ASSISTED TRANSLUMINAL TRABECULOTOMY SURGERY

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Abstract text

Introduction: The aim of this study was to evaluate the educational quality and usefulness of YouTube videos as a resource in gonioscopy-assisted transluminal trabeculotomy (GATT) surgery.

Methods: The first 50 YouTube videos found using the search term 'gonioscopy-assisted transluminal trabeculotomy' and fulfilling the inclusion criteria were evaluated without any change in the search preferences of the YouTube video search engine. The steps of GATT surgery were scored (range:1–12) and standardized according to the literature. The number of views, likes, dislikes, comments, how long the videos lasted, when they were uploaded, viewing rate, video power index, and interaction index were calculated. In addition, the videos were analysed using the DISCERN score(range:16–75), the Global Quality (GQ) score(range:0–5), and the Journal of the American Medical Association (JAMA) score (range:0–4).

Results: The mean number of views (1910.6±3221.5), likes (21.7±29.4), dislikes (0.2±0.7), comments (1.5±2.1), video duration (278.5±233.1 seconds), time since upload (45.3±38.6 months), view rate (2.2±3.7), likes rate (98.7±4.5), video power index (2.2±3.7), and interaction index (0.00025±0.00026) were calculated. The mean surgical quality score of the videos was 8.9±2.2, the DISCERN score was 35.8±9.2 (poor quality), the GQ score was1.4±0.7(insufficient quality), and the JAMA score was 1.8±0.8 (moderate quality).

Conclusions: The majority of videos about GATT on YouTube are related to surgical technique and are mostly produced by doctors. Although the surgical score of the videos related to surgical technique was found to be high, their quality as a resource was low according to the video quality scoring criteria used worldwide.

Key Words: YouTube, gonioscopy, trabeculotomy, GATT

GOS-8

ANALYSIS OF THE RETINOCHOROIDAL MICROCIRCULATION AND ULTRASTRUCTURE IN ABO BLOOD GROUPS

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Abstract Text:

Background: So far, no study has determined variations in the ocular posterior segment ultrastructure and microvascular morphology among ABO blood groups. We investigated the retinochoroidal and optic disc ultrastructural and microvascular morphology among ABO blood groups using non-invasive multimodal imaging techniques.

Methods: This single-centered cross-sectional study included 176 healthy individuals whose ABO blood groups were categorized as O (25.5%), A (33.5%), B (20.5%), or AB (20.5%). After gathering demographics, an in-depth ophthalmological examination was done, including measurements of uncorrected visual acuity, intraocular pressure, and axial length. Then, biomicroscopy was performed, followed by EDI-OCT and OCT-angiography to evaluate the retinochoroidal ultrastructure and microvascular morphology.

Results: The age, axial length, and intraocular pressure did not vary significantly among groups ($p>0.05$). Blood group B had the thickest ultrastructure, while blood group AB had the thinnest. Central macular and sub-foveal choroidal thicknesses differed significantly among groups, particularly between blood groups A and AB ($p=0.003$), and B and AB ($p=0.005$). Unlike other blood groups, group AB was associated with the lowest vessel densities, particularly in the whole superficial (52.450±2.075%) and deep (56.986±4.486%) capillary plexus, which was accompanied by the lowest outer retinal flow area (7.972±1.364 mm 2). Despite blood group AB having the thinnest global retinal nerve fiber layer, none of the optic disc ultrastructural or microvascular morphological parameters varied significantly ($p>0.05$).

Conclusions: Understanding ABO blood groups in relation to retinochoroidal and optic disc ultrastructure and microvascular morphology could lead to more tailored approaches of health preservation and disease prevention.

Key words: ABO blood groups, EDI-OCT, OCT-angiography, Retinochoroidal layer, Vessel density

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-9

PREVALENCE AND MYOPIA CONTROL AMONG SCHOOLCHILDREN IN KAZAKHSTAN: INSIGHTS FROM ALMATY AND ASTANA

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Abstract Text:

Introduction: Refractive errors dominate the structure of primary childhood morbidity.

Objective: To study the prevalence of ametropia, risk factors, and the current state of myopia management.

Materials and methods: A cross-sectional study of 3,761 students (6-16 years old) was conducted. Autorefractometry was performed in cycloplegia and three groups were surveyed: 1st (N=769), 5th (N=1409) and 9th grades (N=1582). The following factors were analyzed: heredity, screen time, working nearby, staying outdoors and playing sports, and sleeping. Logistic regression analysis was used to evaluate the relationships.

Results: The overall prevalence of refractive disorders was 31.6% (95%, CI 29.7-33.5), of which myopia was 28.3% (95% CI 26.5–30.1). Multifactorial analysis showed that the risk of myopia increases significantly by grade 9 (OR 3.34; 95% CI 2.31–4.82; p<0.001). The protective factors were exposure to the street for more than 2 hours a day (OR 0.64; 95% CI 0.46–0.89; p<0.05) and regular exercise (OR 0.70; 95% CI 0.52–0.93; p<0.05).

Management of myopia: The issues of myopia control are being actively implemented through the Society of Ophthalmologists of Kazakhstan and the training of specialists according to the standards of the International Institute of Myopia (IMI). As of the end of 2025, there are about 28 specialized centers in Kazakhstan, employing more than 150 specialists. A significant breakthrough was the opening of laboratories for the production of standard and individual orthokeratology lenses in Almaty (2023) and Astana (2024), which allowed the development of lens designs adapted to the morphological parameters of the cornea of patients in the Central Asian region.

Conclusions: Myopia remains the main refractive problem of schoolchildren in Kazakhstan's megacities. With a total prevalence of 28.3% of myopia among schoolchildren in megacities, the estimated need for specialized care covers more than 280 thousand children. The current staffing level is approximately 0.53 myopia control specialists per 1,000 children with myopia. This highlights the need to further expand the network of specialized centers. In addition to optical correction methods, an effective control strategy should also include public health measures: increasing time outdoors, limiting visual load, and normalizing sleep patterns.

Key Words: myopia in children, prevalence of myopia, myopia control

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-10

EVALUATION OF THE RELIABILITY AND READABILITY OF RESPONSES GIVEN BY ARTIFICIAL INTELLIGENCE CHATBOTS TO PATIENT QUESTIONS ON RETINAL DETACHMENT AND POSTERIOR VITREOUS DETACHMENT

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Abstract text

Introduction: The aim of this study was to evaluate the efficiency, accuracy and readability of the responses of the leading large language models ChatGPT-4o, Claude 3.5 Sonnet and Google Gemini 2.0 Flash from three different companies to retinal detachment and posterior vitreous detachment questions.

Methods: The accuracy of the large language models' answers to 20 questions about posterior vitreous detachment and retinal detachment frequently asked by patients was evaluated by two ophthalmologists using a 5-point Likert scale with scores ranging from 1 to 5. In addition, Flesch Reading Ease and Flesch-Kincaid Grade Level indices were used to assess the readability of the large language models' responses.

Results: Despite small differences in the mean scores in terms of reliability for all three large language models, the overall performance of the three language models was similarly high when they addressed the same questions about posterior vitreous detachment and retinal detachment. There were no statistically significant differences between the three large language models on the Likert scale ($p = 0.223$). In terms of readability, Gemini 2.0 Flash has the highest Flesch Readability score, while Claude 3.5 Sonnet has the lowest Flesch Readability score.

Conclusion: The three large language models provided highly reliable answers to questions about posterior vitreous detachment and retinal detachment. However, given the differences in readability between the large language models, it is important to select the appropriate model according to the patient profile during the counseling process.

Key Words: ChatGPT-4o, Gemini 2.0, Claude 3.5, Retinal Detachment, Posterior Vitreous Detachment

GOS-11

COMPREHENSIVE CLINICAL AND VISUAL PROFILE OF CHILDREN WITH SYNDROMIC VISUAL IMPAIRMENT: A RETROSPECTIVE OBSERVATIONAL STUDY

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Abstract Text:

Introduction/Background: This study aimed to evaluate the clinical and visual characteristics and longitudinal outcomes of children with syndromic visual impairment.

Methods: This retrospective study evaluated 69 children (<6 years of age) with syndromic visual impairment, based on medical records from the Ankara University Low Vision and Rehabilitation Unit collected between 2000 and 2025. Functional visual responses were assessed by evaluation of light reaction, object fixation and tracking, threat response, and preferential looking with Teller Acuity Cards and Cardiff tests, providing a graded measure of visual engagement in children.

Results: The mean age was 17.9 months, with 35 females (50.7%) and 34 males (49.3%). Cortical visual impairment (58%) was the predominant etiology, followed by ocular causes (27.5%) and mixed mechanisms (14.5%). Consanguinity was present in 31.8% of children—most commonly first-degree cousin marriages. Among syndromic diagnoses, West syndrome was most frequent (23.2%), followed by Joubert syndrome (14.5%), Hermansky–Pudlak syndrome (5.8%), DiGeorge syndrome (4.3%), Cri-du-chat syndrome (4.3%), and Arnold–Chiari malformation (4.3%) and other rare syndromes each accounted for less than 3% of cases. Visual rehabilitation consisted of refractive correction, contrast- and light-based visual stimulation, and structured exercises targeting fixation, tracking, and threat responses. During follow-up, 30.8% of children improved, 43.2% remained stable, none deteriorated, and 26% were not assessable due to limited cooperation or developmental constraints.

Conclusions: This comprehensive analysis demonstrates that CVI is the predominant cause of visual impairment in syndromic children. The substantial rate of consanguinity underscores the importance of genetic factors. Early multidisciplinary intervention and individualized visual rehabilitation strategies are essential for optimizing outcomes.

Key Words: syndromic visual impairment, cortical visual impairment, low vision habilitation, rehabilitation, consanguinity

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-12

EARLY EFFECTS OF MYOPIC DEFOCUS LENSES WITH DIMS TECHNOLOGY ON MYOPIA PROGRESSION AND CHOROIDAL THICKNESS

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Abstract text

Introduction: Myopia is a refractive error with an increasingly high prevalence worldwide. It is estimated that approximately half of the global population will be affected by myopia by 2050. In recent years, spectacle lenses designed to slow myopia progression using the principle of myopic defocus have been introduced. The aim of this study was to evaluate the short-term effects of spectacle lenses incorporating Defocus Incorporated Multiple Segments (DIMS, HOYA, MyoSmart) compared with single vision lenses (SVL) on axial length, degree of myopia, and choroidal thickness.

Methods: A total of 46 eyes of 23 myopic children were included into the study, 26 of which were assigned to the DIMS group and 20 were assigned to the SVL group. Axial length, refractive error, and choroidal thickness were recorded at baseline, at the 1-month follow-up, and at the 3-month follow-up visits.

Results: Thirteen patients (56%) were female. There were no statistically significant differences between the DIMS and SVL groups in terms of age or sex distribution (p=0.40 and p=0.27, respectively). In the DIMS group, no statistically significant differences were observed in myopic refractive error, axial length, or choroidal thickness between baseline, 1-month, and 3- month follow-up visits (p=0.19, p=0.40, and p=0.12, respectively). In contrast, the SVL group demonstrated a statistically significant increase in myopic refractive error and a significant decrease in choroidal thickness at the 3-month follow-up visit (p<0.001 and p=0.033, respectively).

Conclusions: All treatment strategies which aim to control myopia progression seek to prevent progression to pathological myopia and to preserve visual function. Spectacle lenses incorporating DIMS technology are designed to slow axial elongation by inducing myopic defocus. In our study, myopia progression was observed in the SVL group even within a short period of three months, whereas no significant changes in refractive error, axial length, or choroidal thickness were detected in the DIMS group. Based on these findings, we believe that informing patients and their families and promptly prescribing spectacle lenses that induce myopic defocus may be beneficial in preventing myopia progression in pediatric patients.

GOS-13

ANALYSIS OF CLINICAL MANIFESTATIONS OF HEREDITARY EYE DISEASES AMONG CHILDREN IN AZERBAIJAN

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Abstract text

Introduction: Hereditary eye diseases are a significant public health concern in Azerbaijan, especially among children born from consanguineous marriages. This study aimed to analyze the clinical manifestations, frequency, and distribution of hereditary ocular disorders in children, considering family history, age, and gender.

Materials and Methods: A total of 560 children diagnosed with hereditary eye diseases were examined. Data were collected on family history, age, gender, and type of ocular pathology. The presence of consanguinity among parents was identified in 73% of cases. The diseases were classified by clinical form, frequency, age distribution, and laterality (unilateral or bilateral). Statistical analysis was performed using the Kruskal Wallis and chi-square tests to assess significance ($p<0.05$).

Result: Age analysis revealed retinal dystrophies were most common in the 6–10 years age group, while congenital lens pathologies predominated in 0–5 years. Refractive errors and strabismus were more frequent among school-aged children, reflecting functional visual disturbances developing with age. Gender distribution showed higher prevalence of retinal dystrophies and corneal dystrophies in males, whereas congenital glaucoma was slightly more frequent in females; however, these differences were not statistically significant ($\chi^2=13.634$; $P>0.05$). Bilateral involvement occurred in 89.5% of cases, emphasizing the systemic impact of these disorders.

Conclusion: The findings highlight the importance of family history in the early detection and management of hereditary eye diseases. Early diagnosis allows timely interventions, reduces the risk of vision loss, and supports genetic counseling. These results underscore the need for targeted screening programs and preventive strategies, particularly in populations with high rates of consanguinity.

Keywords: hereditary eye diseases, consanguineous marriages, retinal dystrophies

GOS: GENERAL OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

GOS-14

THE BURDEN OF OBESITY. OBESITY AND OPHTHALMOLOGICAL PARAMETERS AND DISEASES IN THE POPULATION OF SOUTHERN URALS

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Abstract text:

Purpose. To determine the relationship between obesity and increased intraocular pressure among the population of the Southern Urals.

Materials and methods. The present study involved 5899 participants with an average age of 59,0±10,7 years (range 40-94 years). All participants were assessed by questionnaire, ophthalmological examination, measurement of anthropometric parameters, calculation of body mass index, measurement of intraocular pressure.

Results. In the study population, the prevalence of obesity was 30,3% (1787/5899; 95% CI: 29,1; 31,5). In general, the average value of intraocular pressure in the population was 13,6 mm Hg. Elevated increased intraocular pressure > 21 mm Hg was observed in 1,3% (79) of patients, 37% (29) of them were obese. Multivariate analysis showed that the prevalence of obesity was associated with high intraocular pressure (OR 1,03; 95% CI OR: 1,02; 1,05; P <0,001), and conversely, elevated intraocular pressure was positively correlated with a high body mass index (B: 0,06; 95% CI: 0,04-0,08; β: 0,08; P <0,001).

Conclusion. The data obtained indicate that when examining patients with eye diseases, an ophthalmologist should pay attention not only to the ophthalmological status of patients, but also to the general appearance of the eye, its anthropometric data and body mass index and if its nenessary include recommendations for weight loss.

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-1

WHAT DO I DO IN CASES WİTH MILD GLAUCOMA AND CATARACTS?

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Abstract Text:

Introduction/Background: To discuss the treatment options in cases with mild glaucoma and cataracts.

Methods: The progression rate of mild glaucoma in long term follow-up, the effect of solo cataract surgery on intraocular pressure (IOP), the effect of cataract surgery combined with minimally invasive surgery (MIGS) is discussed.

Results: Mild glaucoma doesn't mean glaucoma in control because it may progress to blindness in long term follow-up. Studies showed that mild glaucoma progresses approximately %45-62 in 6 years follow up. Only 1 mmHg decrease in IOP prevents glaucoma progression about %11-19. Cataract gurgery alone in mild glaucoma cases decreases IOP approximately 3.77 mmHg. On the other hand, cataract surgery combined with MIGS decreases about 7-12 mmHg According to MIGS type (Gonyoscopy assisted transluminal trabeculotomy, Kahook blade, i-stent).

Conclusions: Cataract surgery combined with MIGS is a safe and effective method. It should be in mind in mild glaucoma and cataract cases in order to prevent progression of glaucoma.

Key Words: Glaucoma, cataract, minimal invasive glaucoma surgery

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-2

WHEN TO TREAT GLAUCOMA, AND WHICH TYPE OF SURGERY TO PERFORM?

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Abstract Text:

Introduction/Background: To discuss the best treatment options when glaucoma surgery is needed in cases with uncontrolled or progressive glaucoma patients

Methods: The patient selection in glaucoma surgeries, (MIGS, bleb forming penetrating surgery, seton implants and cyclodestructive procedures) are discussed.

Results: If glaucoma progressin detected under maximal tolerated glaucome medication, glaucoma surgery options are obligated to stop further disruction since Studies showed that mild glaucoma progresses approximately %45-62 in 6 years follow up. Only 1 mmHg decrease in IOP prevents glaucoma progression about %11-19. Moderate and severe glaucomas pogresses even more rapidliy, despite IOP in between 15-21 mmHg's.

Conclusions: Glaucoma surgeries including Migs, Penetrating and seton implant surgery options would be determined in time with appropiate patient selection in progressive glaucoma cases.

Key Words: Glaucoma, glaucoma surgery, trabeculectomy, seton implants, minimal invasive glaucoma surgery

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-3

A COMPARATIVE STUDY OF SOFT-PRESERVED VERSUS PRESERVATIVE-FREE BRIMONIDINE ON THE OCULAR SURFACE IN PRIMARY OPEN-ANGLE GLAUCOMA

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Abstract Text:

Introduction: Long-term use of preservative-containing topical antiglaucoma medications may adversely affect the ocular surface. Differences in preservative content among brimonidine formulations may influence ocular surface integrity independently of intraocular pressure control. This study compared ocular surface parameters and their associations with structural glaucoma findings in patients using soft-preserved or preservative-free brimonidine.

Methods: This comparative study included age and gender- matched 39 patients with primary open-angle glaucoma (39 eyes) and 48 healthy controls (48 eyes). Glaucoma patients were subdivided according to the treatment with soft-preserved (18 eyes) or preservative-free (21 eyes) brimonidine. Ocular surface evaluation included tear film break-up time (TBUT), Schirmer test, Ocular Surface Disease Index (OSDI), and Oxford corneal staining score. Retinal nerve fibre layer (RNFL), ganglion cell inner plexiform layer (GCIPL), and optic disc parameters were assessed using optical coherence tomography. Associations between ocular surface and structural parameters were analysed.

Results: Structural glaucoma parameters were comparable between the two brimonidine groups and differed significantly from controls. TBUT was significantly shorter in the soft-preserved brimonidine group than in the preservative-free group ($p = 0.014$), whereas Schirmer test, OSDI, and Oxford staining scores did not differ between groups. In the soft-preserved brimonidine group, Oxford corneal staining score showed a strong negative correlation with average RNFL thickness ($r = -0.809$, $p < 0.001$) and a moderate negative correlation with average GCIPL thickness ($r = -0.584$, $p = 0.011$). No significant correlations were observed between ocular surface parameters and structural glaucoma indices in the preservative-free group.

Conclusion: Compared with preservative-free brimonidine, soft-preserved brimonidine was associated with reduced tear film stability and significant associations between ocular surface damage and retinal structural loss. In contrast, preservative-free brimonidine maintained ocular surface stability independently of glaucoma severity, suggesting a potential advantage for long-term ocular surface preservation in glaucoma management.

Key Words: Brimonidine, Primary open-angle glaucoma, Tear film stability

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-4

USE OF THE SAVE SIGHT YEARS ENGINE IN DETERMINING TARGET INTRAOCULAR PRESSURE IN GLAUCOMA FOLLOW-UP: COMPARISON WITH REAL-WORLD DATA

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Abstract text:

Background: Glaucoma is a chronic disease characterized by progressive optic nerve damage and irreversible visual field loss. Intraocular pressure (IOP) control is the primary modifiable factor in slowing disease progression. The Visual Field Index (VFI) is widely used to monitor glaucomatous progression. The Save Sight Years (SSY) Engine is a simulation-based tool that calculates individualized target IOP values using historical IOP and VFI data. This study evaluated the potential impact of SSY Engine–recommended individualized IOP targets on visual field outcomes in glaucoma patients.

Methods: This retrospective, observational study included 23 eyes of 15 patients (9 females, 6 males) with primary open-angle glaucoma, aged 54–88 years. Historical IOP and VFI data were analyzed. The annual rate of progression (Rate of Progression, RoP) was calculated using the first three visual field tests. Individualized target IOP levels were simulated using the SSY Engine and compared with achieved IOP levels and corresponding VFI outcomes during follow-up.

Results: The mean age at final visit was 70.0 ± 9.36 years, with follow-up durations of 3–8 years. Mean follow-up IOP was 16.59 ± 2.59 mmHg, while the SSY Engine–calculated target IOP was 12.27 ± 2.41 mmHg. Mean final VFI was 66.0 ± 9.81%. Simulation results suggested that achieving SSY Engine–recommended IOP targets would have increased mean VFI to 70.41 ± 10.04%. The observed mean RoP was 3.07 ± 1.35, compared with a predicted RoP of 1.25 ± 0.82.

Conclusion: Failure to achieve SSY Engine–recommended individualized IOP targets was associated with greater visual field loss. These findings suggest that individualized IOP targets and simulation-based tools such as the SSY Engine may support personalized glaucoma management, particularly in elderly patients.

Key words: Glaucoma, Save Sight Years (SSY) Engine, Visual Field Index (VFI), Rate of Progression (RoP)

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-5

EVALUATION OF ANTERIOR SCLERA AND AQUEOUS OUTFLOW PATHWAYS BY SPECTRAL-DOMAIN OCT IN PRIMARY OPEN ANGLE GLAUCOMA, OCULAR HYPERTENSION AND HEALTHY EYES

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Abstract text:

Introduction/Background: Anterior scleral biomechanics may influence aqueous humor outflow and susceptibility to glaucomatous damage. Advances in anterior segment optical coherence tomography (OCT) enable in vivo evaluation of anterior scleral thickness (AST) and outflow structures. This study compared AST and aqueous outflow parameters among primary open-angle glaucoma (POAG), ocular hypertension (OHT), and healthy eyes, and assessed their inter-relationships.

Methods: This prospective cross-sectional study included 126 participants (56 POAG, 24 OHT, 46 controls). One eye per subject was analyzed. Spectral-domain OCT was used to obtain nasal and temporal anterior segment scans. AST was measured at 0–3 mm posterior to the scleral spur (AST0–AST3). Schlemm's canal area (SCA), trabecular meshwork thickness (TMT), and scleral spur length (SSL) were quantified using Fiji/ImageJ. Group comparisons, correlation analyses, and multivariable linear regression were performed.

Results: AST0 was significantly lower in POAG and OHT compared with controls in both nasal and temporal quadrants (all $p<0.001$). Temporal AST3 was also reduced in POAG and OHT ($p<0.001$), whereas nasal AST3 showed no significant group difference. SCA and SSL were significantly reduced in POAG and OHT in both quadrants (all $p<0.001$). TMT showed a decreasing trend but was often not statistically significant. In multivariable analysis, nasal SCA and nasal SSL were independent positive predictors of nasal AST0 (both $p< 0.001$; $R^2 = 0.356$). Inter-observer repeatability was good (ICC range: 0.78–0.93).

Conclusions: POAG and OHT eyes demonstrate thinner anterior sclera and reduced aqueous outflow structure dimensions on OCT. The independent association between AST, Schlemm's canal area, and scleral spur length supports a biomechanical coupling between the anterior sclera and outflow pathway. These parameters may have diagnostic and prognostic relevance in glaucoma.

Key Words: Primary open-angle glaucoma, ocular hypertension, anterior scleral thickness, Schlemm's canal, anterior segment OCT

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-6

THE EFFECT OF LATANOPROSTENE BUNOD MONOTHERAPY ON STRUCTURAL AND FUNCTIONAL OCULAR PARAMETERS IN OPEN-ANGLE GLAUCOMA PATIENTS

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Abstract text

Introduction: To evaluate the short-term effects of latanoprostene bunod (LBN) 0.024% monotherapy on intraocular pressure (IOP) and structural and functional ocular parameters in patients with open-angle glaucoma (OAG).

Methods: This retrospective study included 36 newly diagnosed OAG patients with early-to-moderate disease, comprising a total of 63 eyes. The cohort consisted of 18 patients with primary open-angle glaucoma (POAG; 15 bilateral, 3 unilateral) and 18 patients with pseudoexfoliative glaucoma (PEXG; 12 bilateral, 6 unilateral). Patients underwent comprehensive ophthalmologic evaluation at baseline (T0), 6 weeks (T1), and 3 months (T2) after initiating LBN monotherapy. Outcome measures included IOP, central corneal thickness (CCT), central epithelial thickness (CET), endothelial cell density (ECD), peripapillary retinal nerve fiber layer (RNFL) and ganglion cell–inner plexiform layer (GCIPL) thicknesses, and standard automated perimetry parameters. Linear mixed-effects models were used for statistical analysis.

Results: LBN significantly reduced IOP in both groups at T1 and T2 compared to baseline (POAG: −31.9% [−7.79 mmHg] and −34.3% [−8.52 mmHg]; PEXG: −31.0% [−7.97 mmHg] and −35.6% [−9.23 mmHg]; all $p<0.001$). No significant differences were found between the groups in terms of IOP levels or percentage reduction at any time point. Significant decreases in CCT (−3.97 µm in POAG, −3.77 µm in PEXG), CET (−1.64 µm in POAG, −1.8 µm in PEXG), and ECD (−80.97 cell/mm² in POAG, −127.5 cell/mm² in PEXG) were observed at T2 in both groups (all $p<0.05$). RNFL and GCIPL thicknesses were generally preserved; however, a small but statistically significant average RNFL thinning (−2.27 µm; $p=0.015$) was noted in PEXG, considered clinically negligible. Visual field mean deviation improved significantly in both groups (POAG: +1.28 dB, $p<0.001$; PEXG: +0.8 dB, $p=0.042$), though this may partly reflect a learning effect due to repeated testing.

Conclusions: LBN monotherapy demonstrated effective IOP-lowering and good structural/functional stability in both POAG and PEXG during short-term follow-up. It represents a reliable treatment option in early OAG management.

Key Words: Intraocular pressure; latanoprostene bunod; modified prostaglandin analog; nitric oxide; open-angle glaucoma; pseudoexfoliation glaucoma

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-7

BDNF AS A BIOMARKER OF NEURODEGENERATION IN PEDIATRIC GLAUCOMA

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Abstract Text:

Introduction: Pediatric glaucoma is characterized by progressive neurodegeneration of the optic nerve, leading to irreversible visual impairment. Early detection of neuronal damage remains challenging, underscoring the need for reliable biomarkers. Brain-derived neurotrophic factor (BDNF) plays a critical role in the survival and function of retinal ganglion cells and in regulating neuroprotective mechanisms. Alterations in BDNF levels may reflect glaucomatous neurodegeneration.

Methods: This study evaluated BDNF concentrations in plasma, urine, and aqueous humor samples obtained from children diagnosed with glaucoma. Patients were assessed at different stages of disease progression. BDNF levels were measured using standardized immunoassay techniques and analyzed in relation to clinical severity.

Results: An increase in BDNF levels was observed in the early stages of pediatric glaucoma, suggesting a compensatory neuroprotective response. However, as the disease progressed, BDNF concentrations declined significantly, correlating with advancing optic nerve damage. These findings indicate a stage-dependent pattern of BDNF expression during glaucomatous neurodegeneration.

Conclusions: BDNF appears to be involved in the pathophysiology of pediatric glaucomatous neurodegeneration. The observed dynamic changes in its levels support its potential role as a biomarker for early neuronal injury and disease progression. Furthermore, BDNF may represent a promising target for the development of neuroprotective therapeutic strategies in childhood glaucoma.

GS-8

INCIDENCE AND RISK FACTORS FOR GLAUCOMA DEVELOPMENT AND PROGRESSION AFTER CORNEAL TRANSPLANTATION

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Abstract text

Introduction and Purpose: This study aimed to evaluate the risk factors associated with an increased incidence of glaucoma development after corneal transplantation.

Methods: The medical records of patients who underwent corneal transplantation between January 2021 and October 2025 were retrospectively reviewed. Data collected included the indication for keratoplasty, type of surgery, follow-up duration, preoperative and postoperative glaucoma status, number of antiglaucomatous medications used, and whether glaucoma surgery was required.

Results: A total of 220 patients who underwent keratoplasty were included, with a mean age of 61.15 ± 17.35 years. The preoperative indications were bullous keratopathy (40.9%), keratoconus (16.4%), corneal scar (14.5%), corneal dystrophy (16.8%), keratitis (5.9%) and graft failure (5.5%). Among the patients, 45.9% underwent DMEK, 39.1% PK, and 15% DALK. Glaucoma progression requiring treatment was observed DMEK (19.8%), PK (24.4%), DALK eyes (9%). There was no statistically significant relationship between the type of surgery and glaucoma progression (p > 0.05). Glaucoma surgery was required in five patients (2.2%): four had previously undergone PK and one had DMEK. The incidence of glaucoma progression was significantly higher in patients with pre-existing glaucoma (38.4%) compared with those without glaucoma (17.5%, p = 0.012).

Conclusion: In our study, the incidence of glaucoma after corneal transplantation was found to be 24.4% for PK, 9% for DALK, and 19.8% for DMEK, consistent with the literature. There was no statistically significant difference in glaucoma progression rates between different surgical techniques. However, the presence of preoperative glaucoma significantly increased the likelihood of postoperative progression. Therefore, patients with pre-existing glaucoma should be closely monitored before and after keratoplasty.

Keywords: DALK, DMEK, Glaucoma, Keratoplasty

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-9

EVALUATION OF ANTERIOR CHAMBER DEPTH USING THREE METHODS IN PATIENTS CLINICALLY SUSPECTED OF HAVING A NARROW ANTERIOR CHAMBER

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Abstract Text:

Purpose: To compare the agreement and diagnostic performance of Scheimpflug imaging (Pentacam)-derived anterior chamber angle (ACA) measurements and the Van Herick test with gonioscopy, the gold standard, in the evaluation of occludable angles.

Materials and Methods: This cross-sectional study included 58 phakic eyes (mean age: 65.07 years). Patients clinically suspected of having a shallow anterior chamber on routine slit-lamp biomicroscopy, without the use of any specific technique, were enrolled. Eyes with a history of intraocular surgery or laser procedures were excluded. Anterior chamber angle assessment was performed using gonioscopy, the Van Herick method, and Scheimpflug imaging (Pentacam)-derived ACA measurements. According to the Van Herick method, eyes with a temporal anterior chamber depth-to-corneal thickness ratio <25% (Grade 0–1) were classified as occludable. In non-indentation gonioscopy, eyes were considered occludable if the posterior trabecular meshwork was visible for <270° or if at least one quadrant was Grade 0–1. Receiver operating characteristic (ROC) analysis and the Youden index were used to determine the optimal ACA cut-off value, and measurements were converted into a categorical variable. Diagnostic performance was evaluated using the area under the curve (AUC). Inter-method agreement was assessed using Cohen's kappa coefficient.

Results: The Van Herick method demonstrated moderate diagnostic performance compared with gonioscopy (AUC = 0.767). In contrast, Pentacam-derived ACA measurements showed lower performance (AUC = 0.578). Agreement between gonioscopy and Van Herick was low-to-moderate but statistically significant ($\kappa = 0.373$; $p < 0.001$). ROC analysis identified 31° as the optimal ACA cut-off. Using this threshold, no significant agreement was observed between gonioscopy and ACA ($\kappa = 0.103$; $p = 0.368$) or between Van Herick and ACA ($\kappa = 0.103$; $p = 0.421$).

Conclusion: The Van Herick method shows significant agreement with gonioscopy and appears to be a reliable non-invasive screening tool for narrow angles. Pentacam-derived ACA measurements demonstrate weak agreement and limited utility as a standalone screening method. Gonioscopy remains the gold standard.

Keywords: Narrow anterior chamber, gonioscopy, Van Herick, anterior chamber angle, Scheimpflug imaging

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-10

CHALLENGES IN GLAUCOMA DIAGNOSIS IN SMALL OPTIC DISCS: AN OCT-BASED ANALYSIS

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Abstract Text:

Background: The influence of optic disc size on the diagnostic performance of structural and functional tests in glaucoma remains an important clinical question. This study aimed to assess how optic disc size affects the sensitivity of retinal nerve fiber layer (RNFL), ganglion cell–inner plexiform layer (GCIPL), and visual field tests in glaucoma patients with small versus normal optic discs.

Methods: This study included 182 eyes: 109 eyes from 73 glaucoma patients and 73 eyes from 41 healthy subjects. Eyes were categorized as *small* (<1.6 mm^2) or *normal* (1.6–2.1 mm^2) optic discs. Optic nerve head parameters, peripapillary RNFL thickness, and macular GCIPL measurements were obtained using the Cirrus 4000 spectral domain OCT (SD-OCT). Visual field results were analyzed using standard automated perimetry. The diagnostic sensitivities of RNFL, GCIPL, and visual field parameters were evaluated with logistic ROC regression analysis.

Results: The mean ages of the glaucoma and control groups were 65.48 ± 7.94 and 65.22 ± 6.55 years, respectively (p = 0.859). The mean disc diameter was 1.48 ± 0.11 mm in the small-disc group and 1.86 ± 0.16 mm in the normal-disc group. Mean deviation (MD) values were −5.52 ± 4.81 in the small-disc group and −4.54 ± 3.73 in the normal-disc group (p = 0.268). In patients with small optic discs, GCIPL parameters (mean, minimum, upper and lower half areas) demonstrated greater sensitivity than RNFL parameters. Conversely, in patients with normal-sized optic discs, RNFL parameters (average, superior, inferior, upper and lower half areas) showed higher sensitivity than GCIPL parameters.

Conclusion: Macular structural parameters show superior diagnostic sensitivity in glaucoma patients with small optic discs. However, combining macular and peripapillary structural assessments may enhance diagnostic accuracy by providing complementary information in these patients.

Key Words: glaucoma, optic disc size, GCIPL, RNFL, OCT

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-11

ONE YEAR RESULTS OF PHACOEMULSIFICATION COMBINED WITH GATT VERSUS KAHOOK DUAL BLADE GONIOTOMY: A COMPARATIVE STUDY

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Abstract text:

Background: To evaluate and compare the surgical results phacoemulsification combined with GATT and Kahook dual blade goniotomy (KDB).

Method: This retrospective comparative study included cases who underwent phacoemulsification combined with KDB or GATT. Surgical success was defined as a ≥30% reduction in intraocular pressure (IOP) from baseline or a postoperative IOP of <18 mmHg. IOP spike was defined as IOP >21 mmHg at week 1. Best corrected visual acuity, IOP, the number of antiglaucomatous medications (AGM), surgical success and need for additional surgery were analyzed preoperatively and postoperatively.

Results: A total of 39 cases were included in KDB and 29 in GATT. Baseline demographics and glaucoma severity were comparable between groups. Intraocular pressure was comparable between groups (p>0.05 in all) and lower than baseline (p<0.05 in all) at all follow-up visits. The median number of AGM was also comparable between groups (p>0.05 in all), surgery did not result in a reduction in number (p>0.05 in all). Early postoperative microhyphema occurred in all cases. But layered hyphema was more common in GATT (32.1%) than KDB (7.7%) and resolved spontaneously in week 1 (p=0.013). Spike in intraocular pressure were observed at similar rates and resolved spontaneously after week 1 (p>0.05 in all). After this time, IOP elevation persisted in only one case in each group. Surgical success did not differ between groups (KDB=87.2%; GATT=86.2%; p=0.9). Only one case in each group needed additional glaucoma surgery (p=0.831). Among cases with unsuccessful surgical outcomes, 2 (40%) in KDB had severe and 3 (60%) mild glaucoma, while all in GATT had severe glaucoma.

Conclusion: KDB and GATT may have a similar effect on the reduction of IOP, regardless of the number of AGM. Excision of the entire trabecular meshwork like in GATT may not be necessary for an effective reduction. Both have comparable efficacy.

Key Words: Gonioscopy-assisted transluminal trabeculotomy, Kahook dual blade, glaucoma, intraocular pressure

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-12

SECONDARY SETON IMPLANTATION: EFFICACY AND CLINICAL OUTCOMES

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Abstract Text:

Introduction and Purpose: Glaucoma Drainage Implant (GDI) surgery patients may require secondary surgery due to reasons such as tube exposure or plate exposure, or due to tube malfunction. In this study, the causes and outcomes of secondary glaucoma drainage implant surgeries were presented.

Methods: Medical records of patients who underwent secondary seton implantation at our clinic between May 2018 and July 2024 were retrospectively reviewed. A total of 7 eyes from 7 patients (1 female, 6 male) were included in the study. Demographic findings, ophthalmic history, postoperative treatment, and causes of revision, as well as intraocular pressure measurements, were obtained from hospital records and patient files.

Results: Among the patients, 1 was female and 6 were male, aged between 8 and 56 years (median 25.4). Forty-three percent of the patients had uveitic glaucoma, 29% had aphakic glaucoma, 14% had traumatic glaucoma, and 14% were in the “other” group. Preoperative average number of medications was 2.6, and intraocular pressures ranged between 25–40 mmHg. The main reasons for secondary intervention were tube malfunction (57%), exposure (tube/plate) (29%), and Tenon cyst (14%).

Discussion and Conclusion: Glaucoma Drainage Surgeries significantly reduce intraocular pressure. However, long-term management of complications and close monitoring are required in patients who undergo secondary seton implantation. Further studies are needed to better understand the causes and outcomes of secondary seton implantation procedures.

Key Words: Glaucoma, Drainage Implant surgery (GDI), Intraocular Pressures (IOP)

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-13

EFFECT OF GLAUCOMA STAGE ON GONIOSCOPY-ASSISTED TRANSLUMINAL TRABECULOTOMY (GATT) OUTCOMES

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Abstract Text:

Introduction: Gonioscopy-assisted transluminal trabeculotomy (GATT) is a minimally invasive glaucoma surgery with proven efficacy. However, the effect of glaucoma stage on surgical success and functional outcomes remains unclear. This study aimed to evaluate the impact of glaucoma stage on surgical success rates, intraocular pressure (IOP) control, and visual function following GATT.

Methods: This retrospective study included 84 patients who underwent GATT surgery. Patients were classified into early–moderate and advanced-stage groups based on preoperative visual field mean deviation (MD) values. Demographic data, preoperative and postoperative IOP, LogMAR visual acuity, MD changes, number of antiglaucomatous medications, and the need for additional surgical interventions were analyzed. Statistical analyses were performed using SPSS version 26.0, and p-values < 0.05 were considered statistically significant.

Results: The early–moderate group included 53 patients, and the advanced-stage group included 31 patients. Demographic characteristics were similar between the groups. Preoperative MD values and LogMAR visual acuity were significantly worse in the advanced-stage group ($p < 0.001$). Preoperative IOP levels were comparable between groups ($p = 0.176$), while the number of antiglaucomatous medications was significantly higher in the advanced-stage group ($p = 0.034$). Surgical success rates were 75.5% in the early–moderate group and 71.0% in the advanced-stage group ($p = 0.651$). The wipe-out phenomenon was observed in two patients with advanced glaucoma (6.45%). Glaucoma stage was not a predictor of surgical success (OR: 0.794; $p = 0.651$).

Conclusion: Glaucoma stage was not significantly associated with surgical success following GATT. Although advanced-stage glaucoma patients carry a higher risk of irreversible vision loss, GATT can provide effective IOP control with comparable success rates across different disease stages. Close postoperative monitoring is essential, particularly in advanced-stage patients. Surgical planning should consider the overall clinical status of the patient rather than glaucoma stage alone.

Key Words: Glaucoma, GATT surgery, Glaucoma stage, Intraocular pressures, Surgical success, Functional loss

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-14

COMPARISON OF THE EFFICACY AND SAFETY OF LATANOPROST 0.05% AND LATANOPROSTENE BUNOD 0.024% IN PRIMARY OPEN-ANGLE GLAUCOMA

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Abstract text:

Introduction: To compare the efficacy and safety of latanoprost 0.05% and latanoprostene bunod (LBN) 0.024% in patients newly diagnosed with primary open-angle glaucoma (POAG).

Methods: A total of 57 treatment-naive POAG patients who presented to the Ophthalmology Clinic of Gülhane Faculty of Medicine, University of Health Sciences between April 2023 and June 2023 were randomized into two groups. Group 1 received latanoprost 0.05% once daily (n=26), while Group 2 received LBN 0.024% once daily (n=31). Intraocular pressure (IOP) measurements and possible drug-related side effects were prospectively evaluated on day 1, week 1, and month 1 after treatment initiation.

Results: The patient groups were similar in terms of age and sex (p>0.05). Baseline IOP was 25.42±4.21 mmHg in the latanoprost group and 24.22±3.71 mmHg in the LBN group (p=0.28). At week 1, the reduction in IOP was 25.62±15.10% in the latanoprost group and 24.54±13.11% in the LBN group (p=0.09). At month 1, IOP reduction was 24.99±13.48% in the latanoprost group and 26.08±10.42% in the LBN group (p=0.07). At month 1, the mean IOP in the LBN group was 0.91 mmHg lower than in the latanoprost group; however, this difference was not statistically significant (p=0.09). Ocular hyperemia developed in two patients in each group, which did not require discontinuation of treatment.

Conclusion: Once-daily latanoprostene bunod 0.024% achieved lower IOP values at 1 month compared to once-daily latanoprost 0.05% in treatment-naive POAG patients, although the difference was not statistically significant. Both medications were safe and showed similar side effect profiles.

Key Words: latanoprostene bunod, latanoprost, glaucoma, primary open-angle glaucoma

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-15

STRUCTURE–FUNCTION MISMATCH IN GLAUCOMA SUSPECTS: DIAGNOSTIC CONTRIBUTION OF SMALLER STIMULUS SIZE IN VISUAL FIELD TESTING — A CASE SERIES

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Abstract text

Introduction: To comparatively assess the diagnostic sensitivity of Humphrey visual field (HVF) testing employing different stimulus sizes for the detection of early glaucomatous visual field defects in glaucoma-suspect patients.

Methods: This study was designed as a prospective case series and conducted at the Department of Ophthalmology, Ankara Training and Research Hospital. Seven patients were consecutively enrolled. All included patients had intraocular pressure <20 mmHg, measured using Goldmann applanation tonometry, and demonstrated normal anterior segment findings on slit-lamp examination. Patients who exhibited enlargement of the optic disc cup-to-disc (C/D) ratio on dilated fundus examination and retinal nerve fiber layer (RNFL) thinning on optical coherence tomography (OCT) imaging were classified as having suspected glaucoma. These patients subsequently underwent Humphrey visual field (HVF) testing using the 24-2 program, performed with stimulus size III and stimulus size I.

Results: The mean age of the seven glaucoma suspects patients was 50.1 ± 14.6 years. The mean intraocular pressure measured by Goldmann applanation tonometry was 15.9 ± 1.7 mmHg. The average retinal nerve fiber layer (RNFL) thickness measured by optical coherence tomography (OCT) was 83.3 ± 5.4 µm. No visual field defects were detected on Humphrey Visual Field (HVF) testing performed with standard stimulus size III. In contrast, HVF testing using stimulus size I revealed glaucomatous visual field defects, including nasal step and arcuate defects.

Conclusion: Humphrey visual field testing with stimulus size I may improve the detection of early visual field defects in glaucoma suspect patients that are not identified with the standard size III stimulus.

Key Words: Glaucoma; Visual fields; Structure Function Mismatch; Stimulus size

GS: GLAUCOMA SESSIONS ORAL PRESENTATIONS ABSTRACTS

GS-16

ASSESSMENT OF LONG-TERM CLINICAL OUTCOMES IN PEDIATRIC APHAKIC GLAUCOMA

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Abstract Text:

Background: To describe the clinical characteristics, treatment approaches, and factors associated with the need for surgery in pediatric aphakic glaucoma.

Methods: This retrospective study included pediatric patients with aphakic glaucoma secondary to congenital cataract who were followed at the glaucoma department of Ankara Training and Research Hospital between 2015 and 2025. Collected data included age at lensectomy, aphakia-glaucoma interval (AGI), intraocular pressure (IOP), axial length, corneal findings, treatment modality, and follow-up duration.

Results: A total of 29 eyes from 17 patients were analyzed. The median age at aphakia was 8 months (2-24 months), and the median AGI was 12 months (4-36 months). Median follow-up duration was 72 months (48-96 months). Median baseline IOP was 32 mmHg (28–38 mmHg) and decreased to 17 mmHg (14-20 mmHg) at the final visit. Surgical treatment was required in 66% of eyes. Compared with medically managed eyes, surgically treated eyes had a younger age at aphakia (4 vs 18 months), higher baseline IOP (34 vs 29 mmHg), and a higher rate of early-onset glaucoma (AGI<12 months). Final IOP was lower in the surgical group (14 mmHg vs 21 mmHg). At the last visit, medication use was similar between groups, with both requiring a mean of 2 antiglaucoma agents (0- 4).

Conclusion: Pediatric aphakic glaucoma is more likely to require surgical treatment in children who become aphakic at a younger age and present with higher intraocular pressure. However, surgical decisions should always be individualized. Although postoperative angle abnormalities after cataract surgery may limit the success of angle procedures, angle surgery can still be considered in selected patients with favorable intraoperative angle findings. Trabeculectomy remains an option, while Ahmed glaucoma valve implantation was the most commonly preferred surgical approach in our series.

Key Words: Aphakia, aphakic glaucoma, trabeculectomy, seton implant

NS: NEURO-OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

NS-1

OPHTHALMOLOGIST AND PSEUDOTUMOR CEREBRI

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Abstract Text:

Pseudotumor cerebri (PTC) also known as idiopathic intracranial hypertension, is a neurological disorder characterised by increased intracranial pressure without an apparent intracranial mass or structural abnormality. It typically occurs in young, overweight women and presents with symptoms similar to those of a brain tumor, such as severe headache, visual loss and diplopia. If left untreated it may lead to permanent visual loss. Although most of the patients initially present to neurology clinics with headache, the role of the ophthalmologist is crucial in the diagnosis, differential diagnosis and management of the disease.

Papilledema is the swelling of the optic disc due to increased intracranial pressure and it must be differentiated from causes of pseudopapilledema such as optic disc drusen. PTC is a diagnosis of exclusion. It should be considered only after intracranial mass lesions, obstructive hydrocephalus, cerebral hemorrhage, central nervous system infections, venous sinüs thrombosis and hypertensive encephalopathy have been ruled out through appropriate clinical and laboratory evaluations. The diagnosis is established according to the modified Dandy criteria. Since the most important complication is visual loss due to secondary optic atrophy, patients should be closely monitored in terms of optic nerve function.

There is no established formal treatment guideline for PTC. Treatment is guided by close follow-up and clinical experience to detect visual deterioration early. Treatment goals in PTC are preservation of vision and reduction of symptoms (particularly headache). Long term follow-up is essential due to the high frequency of recurrences. Weight loss is the only disease-modifying treatment in PTC. Acetazolamide, topiramate and furasemide are most commonly used agents in medical treatment. Surgical intervention is indicated if there is no response to diet and maximally tolerated medical therapy, if the patient has rapidly progressive vision loss, if severe vision loss is present at initial presentation or in cases of fulminant PTC. Currently, the most preferred vision preserving surgical procedure is optic nerve sheath decompression (ONSD). Prompt ONSD as soon as visual deterioration is noticed improves prognosis.

NS: NEURO-OPHTHALMOLOGY SESSIONS ORAL PRESENTATIONS ABSTRACTS

NS-2

DIAGNOSTIC PITFALLS IN NEURO-OPHTHALMOLOGY

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Abstract Text:

Neuro-ophthalmology is a field in which clinical decision-making largely relies on examination and clinical localization. Therefore, even minor evaluation errors may lead to significant diagnostic delays.

Objective: To identify common diagnostic pitfalls in neuro-ophthalmology, to emphasize critical points in clinical examination, to present a practical approach to reduce diagnostic errors

Why is it Important?

- Diagnostic delay may lead to permanent vision loss
- Many neuro-ophthalmologic diseases are associated with life-threatening neurological pathologies
- Diagnosis often begins with clinical examination

For example, missing the diagnosis of papilledema may result in delayed recognition of intracranial hypertension.

1. Optic Neuritis vs NAION

FEATURE	OPTIC NEURITIS	NAION
Age	Young	>50
Pain	Common	Rare
Disc	Normal/edematous	Edematous
Risk factor	MS	Vascular

Clinical features are often sufficient for differential diagnosis. However, atypical cases should be evaluated with MRI.

2. Third Nerve Palsy: Microangiopathic or Aneurysmal?

Key Points: Pupil involvement, pain, sudden onset

Pupil involvement should raise suspicion for a posterior communicating artery aneurysm. Therefore, urgent neuroimaging is required in all suspicious cases.

3. Papilledema vs Pseudopapilledema

Diagnostic Tools: OCT, B-scan ultrasonography, Visual field testing
Distinguishing papilledema from pseudopapilledema is one of the most common diagnostic challenges in neuro-ophthalmology.

Studies: Differentiation based on fundus photographs alone is difficult even among experts, diagnostic accuracy increases when clinical information is added, accuracy further improves when OCT and visual field are evaluated together

4. Visual Field Artifacts

Common Causes: Learning effect, fixation loss, eyelid or lens artifacts. Visual field results should always be interpreted in conjunction with clinical examination.

5. Errors in Pupillary Examination

Key Points: Evaluation of RAPD, ambient lighting, pharmacologic effects. Pupillary examination is one of the most valuable localization tests in neuro-ophthalmology.

Clinical Approach

Avoiding Diagnostic Pitfalls

- Systematic neuro-ophthalmologic examination
- Clinical localization
- Confirmation with imaging

A thorough clinical examination forms the foundation of diagnosis in neuro-ophthalmology.

Conclusion

- Diagnostic pitfalls are common
- Evaluation of papilledema is one of the most critical areas
- A systematic approach reduces errors

NS-3

DEEP LEARNING APPROACH TO DISTINGUISH PAPILLEDEMA, NON-ARTERITIC ANTERIOR ISCHEMIC OPTIC NEUROPATHY, AND HEALTHY EYES BASED ON OCT IMAGES

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Abstract Text:

Purpose: To distinguish acquired optic disc swelling due to papilledema and non-arteritic anterior ischemic optic neuropathy (NAION) from healthy eyes based on deep learning (DL) from optical coherence tomography (OCT) images.

Methods: 120 optic nerve head (ONH) images from 70 cases were evaluated. Each images were classified as acute NAION (40 eyes from 28 cases), papilledema (40 eyes from 22 cases with idiopathic intracranial hypertension (IIH), Frisén grade ≥1), and healthy controls (40 eyes from 20 cases). The images were distributed into groups equal in number to the normal eye image count and used to train the ResNet50 DL algorithm. The algorithms were trained with 10-fold cross- validation, and results are reported as sensitivity, specificity, and accuracy.

Results: Our model classified 3 conditions using whole ONH OCT screening data, including ONH and peripapillary retinal nerve fiber layer thickness (RNFLT). The model achieved 0.88 sensitivity, 0.88 specificity, and 0.88 accuracy in detecting acute NAION versus control group. For detection of papilledema versus control group, the model achieved 0.75 sensitivity, 0.94 specificity, and 0.87 accuracy.

Conclusion: Our findings show that an OCT-based DL model can distinguish papilledema and NAION from healthy eyes with high sensitivity, high specificity, and high accuracy.

Key words: Deep learning, optical coherence tomography, papilledema and non-arteritic anterior ischemic optic neuropathy

NS-4

TREATMENT EFFECTIVENESS OF TRAUMATIC OPTIC NEUROPATHY USING COLOR AND MAGNETIC STIMULATION

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Abstract Text:

Introduction: Indirect traumatic optic neuropathy (TON) is a serious complication of blunt ocular trauma leading to visual loss. Over the past 10 years, indirect TON has been identified in 23.7% of all blunt ocular traumas worldwide. The aim of the study was to evaluate the effectiveness of treating indirect traumatic optic neuropathy using magnetic and color stimulation.

Materials and methods: 56 patients (60 eyes) with indirect TON were examined at the National Medical Center. Age of the patients was 24.3±6.25 years, 67.5% of them were men. Patients were divided into 3 subgroups (n=20): control group -conventional treatment, group A - conventional treatment + local magnetic stimulation, group B - II A treatment + local color stimulation.

Results: In patients in group B, the VA before treatment was on average 0.59±0.08. In the main group, the total peripheral visual field (TPVF) before treatment was 421.20±18.10. At the 3rd month of observation, it decreased by 2.1%. In group A, V max in all vessels increased by an average of 36% at the 1st month. RI decreased by 3.6%, respectively. By the 6th month, it was on average 28.4% higher than the pre-treatment values. In the group B, V max improved by an average of 34.2% compared to the initial value, RI decreased by 10.6%, and CI increased by an average of 17.1%.

Conclusion: The use of magnetic and color stimulation in the treatment of a patient with indirect TON increased the VA by an average of 25.4±5.1%, and the TPVF expanded by 7±1.3%. In the main group, V max increased by an average of 40% compared to the initial value, CI by 16.3±3.2%, and RI decreased by 10.5±3.7%.

Key words: traumatic optic neuropathy, injuries, magnetic stimulation

NS-5

MUCOCUTANEOUS LYMPH NODE SYNDROME AND PSEUDOTUMOR CEREBRI

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Abstract text

Introduction: This case report presents a secondary pseudotumor cerebri condition associated with mucocutaneous lymph node syndrome (Kawasaki disease) developing after COVID19 infection. A sevenyearold boy presented with “pulsatile morning headaches and vomiting for the last three days,” accompanied by redness of the eyes and hands. The association between Kawasaki disease, multisystemic inflammation, and increased intracranial pressure has been increasingly recognized in the literature.

Methods: The patient underwent a detailed neurological and ophthalmological examination, followed by magnetic resonance imaging (MRI), MR venography, and lumbar puncture for intracranial pressure measurement. Cerebrospinal fluid (CSF) biochemistry and culture analyses were also performed. Findings were interpreted according to standard diagnostic approaches used in the differential diagnosis of intracranial hypertension.

Results: Although visual acuity was normal, fundus examination revealed bilateral grade 2–3 papilledema. Visual field testing showed enlarged blind spots in both eyes. MRI demonstrated increased CSF space around the optic nerves, optic nerve tortuosity, and posterior scleral flattening—findings consistent with intracranial hypertension. MR venography was normal, with no evidence of venous thrombosis. Lumbar puncture revealed a markedly elevated opening pressure of 450 mmHg. CSF biochemistry was within normal limits, and culture and microscopy were negative. These findings supported the diagnosis of pseudotumor cerebri secondary to multisystem inflammatory vasculitis.

Conclusion: This case highlights the relationship between postCOVID19 inflammatory processes and pseudotumor cerebri. Management primarily focuses on controlling the underlying vasculitis, with acetazolamide used as the firstline treatment to reduce papilledema. Surgical options may be considered in refractory cases. The case emphasizes the importance of considering inflammatoryrelated intracranial hypertension in children presenting with headache and papilledema.

Key words: Kawasaki Disease, Pseudotumor Cerebri, Intracranial Hypertension

NS-6

PREDICTION OF VISUAL OUTCOMES IN NON-ARTERITIC ANTERIOR ISCHEMIC OPTIC NEUROPATHY: A COMPREHENSIVE MULTIVARIABLE ANALYSIS

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Abstract text:

Purpose: To develop a predictive model for forecasting visual recovery in patients with non-arteritic anterior ischemic optic neuropathy (NAION) using clinical parameters that are readily available in routine practice.

Methods: This retrospective study analyzed 46 NAION patients. Comprehensive evaluation included demographics, ophthalmologic parameters (visual acuity, RNFL thickness), and laboratory findings (glucose, complete blood count, inflammatory markers). Multiple regression analysis was performed to identify independent prognostic factors.

Results: Mean age was 61.5±11.2 years, 56.5% male, with 10.4±5.2 months follow-up. Visual acuity improved from 0.294±0.267 to 0.348±0.326 (+18.4%, p=0.034). RNFL thickness decreased from 192.8±72.1µm to 68.4±21.3µm (-64.5%, p<0.001). RAPD was positive in 26.1%, macular abnormalities in 32.6%. Mean glucose was 142.7±48.3 mg/dL, NLR was 2.58±1.31. For practical clinical use, a simplified model identified four key predictors: initial visual acuity (β=+0.6789, p<0.001), age (β=-0.0023, p=0.019), glucose (β=-0.0012, p=0.004), and NLR (β=-0.0847, p=0.011). Simplified predictive formula: Final VA = 0.7156 + (0.6789×Initial_VA) - (0.0023×Age) - (0.0012×Glucose) - (0.0847×NLR). Model performance: R^2=0.731, AUC=0.812, accuracy 81.2%.

Conclusions: Initial visual acuity is the strongest prognostic factor in NAION. The developed model predicts visual outcomes with 84.7% accuracy, enabling risk stratification and supporting evidence-based clinical decision-making for patient counseling and treatment planning.

Key words: NAION, visual prognosis, predictive model, neutrophil-to-lymphocyte ratio

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-1

RECONSTRUCTIVE SURGERY OF THE UPPER EYELID WITH AUTOLOGOUS SKIN GRAFTING

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Abstract text

Objective: To assess the effectiveness of eyelid reconstruction using an autologous skin graft harvested from the inner surface of the upper arm.

Relevance: Post-traumatic eyelid defects are a significant clinical challenge, comprising around 10–15% of all facial injuries. When the eyelid margin is involved, patients may experience incomplete eyelid closure, corneal exposure, irritation, and secondary anterior segment changes. The use of autologous skin grafts is a well-established reconstructive technique, particularly when local tissue is unavailable. Reported graft survival rates reach 90–95%, with satisfactory cosmetic and functional outcomes in 85–90% of cases.

Materials and Methods: This work combines a literature review and a clinical case from our practice. Publications indexed in Scopus, Google Scholar, and Medscape (2000–2023) were analyzed, focusing on autologous skin graft use in eyelid reconstruction. Key parameters included graft viability, functional and aesthetic outcomes, and complication rates. A 34-year-old patient with severe cicatricial eyelid deformity and functional impairment underwent reconstructive surgery. A skin graft harvested from the inner upper arm was transplanted to the defect site and fixed with interrupted sutures. Standard postoperative care included antibacterial and anti-inflammatory therapy.

Results and Conclusion: The graft demonstrated good viability and restored eyelid function with improved aesthetic appearance. The patient reported greater comfort and quality of life. This technique is effective and reliable in cases with insufficient local tissue, providing stable functional and cosmetic results.

Key Words: Eyelid reconstruction; autologous skin graft; post-traumatic defect; oculoplastic surgery

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-2

SHORT-TERM CORNEAL TOPOGRAPHIC AND BIOMETRIC CHANGES FOLLOWING PERIOCULAR BOTULINUM TOXIN A INJECTION IN PATIENTS WITH BLEPHAROSPASM AND HEMIFACIAL SPASM

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Abstract Text:

Introduction: Benign essential blepharospasm (BEB) and hemifacial spasm (HFS) are facial dyskinesias characterized by bilateral periocular muscle contractions in BEB and unilateral facial contractions in HFS. Botulinum toxin type A (BTX-A) is the standard symptomatic treatment, with clinical effects beginning within 7–10 days and diminishing over 3–5 months. This study aimed to evaluate short-term changes in corneal topographic and biometric parameters following BTX-A injection in patients with BEB and HFS.

Methods: In our study, 28 eyes of 14 patients with BEB and 12 eyes of 12 patients with HFS were evaluated. After routine examinations prior to BTX-A injection, corneal topography and biometric measurements were obtained. These measurements were repeated at the 1-week and 1-month follow-up visits after treatment. For each biometric assessment, the predicted emmetropic intraocular lens (emm-IOL) power was calculated using the SRK/T, Holladay, Hoffer Q, and Haigis formulas. The findings obtained at each visit were compared.

Results: The mean age of the patients was 70.1 ± 6.5 years. Of the 40 patients, 14 were female and 26 were male. There were no statistically significant differences in anterior segment parameters, axial length, or emm-IOL power calculated using the SRK/T, Holladay, Hoffer Q, and Haigis formulas at baseline, 1-week, and 1-month evaluations (p > 0.05). Although emm-IOL power showed greater changes at the 1-month follow-up across all four formulas, these differences were not statistically significant (p>0.05)

Conclusions: Periocular BTX-A injection did not result in statistically significant short-term changes in corneal topographic parameters, ocular biometric measurements, or predicted emm-IOL power in patients with BEB and HFS. Further studies with larger patient series are needed to determine how accurate IOL power measurement before cataract surgery in patients with BEB and HFS is affected in the short term before and after BTX-A treatment.

Key Words: Blepharospasm, Hemifacial Spasm, Botulinum neurotoxin-a, Topography, Intraocular lens power

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-3

REVISION DCR: OUR SURGICAL SUCCESS RATES IN NASOLACRIMAL DUCT OBSTRUCTION

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Abstract Text:

Introduction: External dacryocystorhinostomy (DCR) is the preferred method for treating nasolacrimal duct obstruction (NLDO), with reported failure rates, ranging from 4% to 13%. The aim of this study is to evaluate the outcomes of revision DCR procedures performed in our clinic for NLDO cases and to identify the possible causes of failure and to analyze the potential prognostic factors.

Methods: Between the years of 2013 and 2023, a total of 833 DSR operations performed by two surgeons (MO, TY) were reviewed. Thirty-nine patients (30 females, 9 males) who experienced persistent epiphora following failed DCR operation were included in this study. Possible causes of failure were determined through preoperative nasal endoscopic and intraoperative findings, and revision surgeries were performed focusing on these causes. The seven most common comorbidities were determined and scoring was done by giving 1 point to each disease.

Results: The initial DCR operation had achieved a 95.2% success rate, and no statistically significant difference was observed between the two surgeons in terms of revision rates (p=0.899). The mean age of patients at the first DCR operation was 43.3±16.2 years, whereas in the revision DCR group, it was 54.9±14.4 years, showing a statistically significant difference (p=0.019). The comorbidity scores in the revision DCR group were significantly higher than the other group (p<0.001). No significant difference was found between groups regarding to gender (p=0.433). The rate of bilaterality was higher in the revision DCR group (30.7% vs. 5.8%), and this difference was statistically significant (p=0.002). The most common preoperative finding was septal deviation (48.7%). The most frequent intraoperative findings during revision DCR operation were common canalicular duct obstruction, inadequate bony osteum size and location, and cicatrix formation at the rhinostomy site. The overall success rate of revision DCR was 76.9%, and this rate increased to 87.1% after a second revision operation.

Conclusion: In conclusion, older age, bilaterality, and a higher number of comorbidities were identified as risk factors for revision DCR. To achieve favorable surgical outcomes, revision procedures should focus on the possible causes of primary surgical failures.

Keywords: Dacryocystorhinostomy, external dacryocystorhinostomy, epiphora, nasolacrimal duct obstruction, revision surgery, prognostic factors

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-4

FEATURES OF THE TREATMENT OF ACUTE DACRYOCYSTITIS

Almaz Tultemirov

Abstract Text:

Chronic purulent dacryocystitis is a long-term inflammation of the painful lacrimal sac caused by obstruction of the nasolacrimal duct. This condition is more common in adults, especially women, due to the anatomical features of the lacrimal ducts.

The primary cause of chronic dacryocystitis is obstruction of the nasolacrimal duct, leading to stagnation of tear fluid and creating a favorable environment for the proliferation of pathogenic microorganisms. Staphylococci, streptococci, and other bacteria are the most common pathogens.

Treatment of chronic purulent dacryocystitis is primarily surgical. The most effective method is dacryocystorhinostomy, aimed at restoring tear drainage. Conservative therapy (antibacterial drops, irrigation) is used as a supportive measure, especially during acute episodes.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-5

RECONSTRUCTIVE SURGERY FOR CONGENITAL COLOBOMA OF THE UPPER EYELID: A CASE REPORT

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Abstract Text:

Introduction and Background: Congenital eyelid coloboma is a rare developmental anomaly characterized by a partial or complete absence of eyelid tissues. In addition to causing a significant cosmetic defect, it may lead to pronounced functional impairment, including inadequate ocular protection and keratopathy. Surgical correction requires the restoration of both the soft-tissue components and the structural framework of the eyelid. In cases accompanied by symblepharon, reconstructive surgery poses substantial technical challenges and necessitates a tailored operative strategy. To present a clinical case of successful upper eyelid reconstruction using an autologous auricular skin–cartilage graft in a patient with congenital upper eyelid coloboma complicated by symblepharon.

Material and methods: A patient with congenital upper eyelid coloboma and symblepharon underwent single-stage reconstructive surgery. Restoration of the eyelid margin and supporting structures was achieved using an autologous auricular skin–cartilage graft. The external surface was reconstructed using local skin–conjunctival flaps.

Results: In the early postoperative period, satisfactory wound healing was observed without signs of inflammation. Long-term follow-up demonstrated stable anatomical integrity of the eyelid, normalization of eyelid mobility, and complete closure of the palpebral fissure. Both the cosmetic and functional outcomes were evaluated as satisfactory.

Conclusion: The use of an autologous auricular skin-cartilage graft as part of a comprehensive surgical approach allows for stable restoration of both the form and function of the upper eyelid in congenital coloboma associated with symblepharon. Early reconstruction promotes normalization of eyelid morphology and improves its protective and visual functions.

Keywords: Eyelid reconstruction, congenital coloboma, autologous graft, auricular cartilage.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-6

VISION LOSS AFTER COSMETIC BLEPHAROPLASTY

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Abstract Text:

Vision loss following cosmetic blepharoplasty is a rare but severe complication that requires immediate recognition and intervention. This case presents a patient who developed complete vision loss in the right eye (no light perception) starting from the first postoperative day after upper and lower blepharoplasty performed under local anesthesia.

Clinical findings included proptosis, chemosis, hemorrhage, restricted ocular motility, and a relative afferent pupillary defect. Imaging suggested a possible orbital process, and fundus examination indicated optic nerve damage. The final diagnosis was compressive ischemic optic neuropathy caused by retrobulbar hematoma leading to orbital compartment syndrome. Although blepharoplasty is commonly performed and generally safe, retrobulbar hemorrhage remains the leading cause of permanent vision loss in such cases. Increased intraorbital pressure can compromise the central retinal artery, resulting in ischemia and irreversible optic nerve damage if not treated within 90–120 minutes.

Early symptoms such as pain, pressure, and visual changes must be taken seriously. Immediate management includes removal of sutures, canthotomy, reduction of intraocular pressure, and possible surgical decompression. Prevention is critical and involves proper patient selection, control of risk factors, meticulous surgical technique, and close postoperative monitoring. This case highlights the importance of timely diagnosis and intervention, as well as the consequences of delayed management, emphasizing that vision-threatening complications, although rare, are preventable with appropriate care.

Key Words: Blepharoplasty, Vision Loss, Retrobulbar Hematoma, Orbital Compartment Syndrome, Optic Neuropathy

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-7

INVISIBLE UNTIL THE KNIFE: MEIBOMIAN CALCIFICATIONS IN CONGENITAL PTOSIS

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Abstract Text:

Background: Congenital ptosis is traditionally regarded as a mechanical defect of eyelid elevation. However, intraoperative findings increasingly reveal that pediatric ptotic eyelids often harbor hidden meibomian gland pathology-including calcified plugs and gland “infarcts” that remain undetected during routine preoperative evaluation. Their unexpectedly high frequency suggests that this condition is significantly underdiagnosed. To analyze the prevalence, intraoperative presentation, pathophysiological relevance, and clinical implications of meibomian gland calcifications in children with congenital ptosis that remain invisible before surgery.

Methods: A prospective observational series of pediatric patients undergoing surgical correction of congenital ptosis was conducted. Preoperative assessment included slit-lamp evaluation, blinking analysis, and meibomian gland assessment when possible. During surgery, the tarsal plate and meibomian ducts were inspected directly, with photographic documentation of calcified plugs, structural alterations, and gland infarcts. Correlations between preoperative and intraoperative findings were assessed.

Results: Meibomian gland calcifications were identified intraoperatively in a notably higher proportion of children than expected from preoperative evaluation. Most calcifications were located deep within the tarsal plate, explaining why they are frequently missed during routine slit-lamp examination. Their presence showed a clear association with impaired blinking mechanics characteristic of congenital ptosis. Additionally, children with intraoperative calcifications demonstrated a higher risk of delayed epithelial recovery and ocular surface instability postoperatively.

Conclusion: Meibomian gland calcifications in congenital ptosis are far more common than clinically appreciated and are often undetectable before surgery. Their strong link to blinking dysfunction suggests a meaningful pathophysiological basis. Because these calcifications may influence postoperative healing and ocular surface health, we propose that intraoperative detection of meibomian calcifications represents a promising new diagnostic marker for evaluating eyelid gland status in pediatric ptosis.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-8

SURGICAL MANAGEMENT OF CANALICULAR LACERATIONS

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Abstract text:

Introduction: Canalicular lacerations are frequently encountered in eyelid trauma and pose both functional and reconstructive challenges. Disruption of the lacrimal drainage system may lead to persistent epiphora, chronic irritation, and patient dissatisfaction if not managed appropriately. Although various surgical techniques and stenting options have been described, the optimal approach remains debated, and management is often guided by surgeon experience, injury characteristics, and available instrumentation.

Methods: This presentation reviews contemporary surgical strategies for canalicular laceration repair, focusing on practical decision-making rather than outcome metrics. Commonly used intubation techniques—including monocanalicular, bicanalicular silicone, and annular silicone intubation with a pigtail probe—are discussed in the context of injury localization, tissue quality, associated eyelid trauma, and intraoperative findings. Emphasis is placed on meticulous identification of the lacerated canalicular ends, the role of surgical microscopy and nasal endoscopy, and principles of canalicular wall alignment and peri-canalicular tissue repair, as supported by current literature.

Discussion: Previous studies have demonstrated that successful canalicular repair depends more on accurate anatomical reconstruction and atraumatic stent placement than on the specific type of intubation used. Literature suggests that both upper and lower canaliculi contribute significantly to tear drainage, supporting repair even in isolated injuries. Monocanalicular intubation is often favored in single-canaliculus injuries due to ease of placement and reduced manipulation of the uninvolved canaliculus, whereas bicanalicular or annular techniques may be preferred in complex or bilateral injuries requiring additional structural support. Complications reported in the literature are largely technique-related and may influence anatomical integrity without necessarily compromising functional tear drainage.

Conclusion: Surgical management of canalicular lacerations should be individualized, balancing anatomical restoration with minimization of tissue trauma. Familiarity with multiple intubation techniques and adherence to microsurgical principles are key to optimizing outcomes. Rather than a single superior method, thoughtful technique selection tailored to injury characteristics remains the cornerstone of successful canalicular repair.

Key Words: Canalicular lacerations, epiphora, silicone intubation

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-9

HOW CAN OPHTHALMOLOGISTS APPLY BOTULINUM TOXIN FOR COSMETIC AIMS?

Serife Ozhuy

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Abstract text:

The Botulinum A is a neutotoxin that paralises the injected muscle reversibly. Injectable botulinum toxin A was granted FDA approval in 1989 for the treatment of blepharospasm and strabismus. In 1994 BTA enjection is published with a study, for reducing the appearance of facial wrinkles. FDA approval was given for cosmetic use at 2002 and since than it has been used for cosmetic tratment. For cometic effects, BTA is enjected into the facial muscles. Facial muscles are attached to soft tissues rather than bones. So their contractions cause facial experssions. By time this normal expressions causes wrinkle lines on skin. Cosmetically those wrinkle lines gives to the patient old and tired appirance. The cosmetic BTA is effective in dynamic wrinkles. These are often around lips, eyes, forehead, and between eyebrows. The seven main facial wrinkle lines can be treated by BTA injections are: Forehead lines, Worry lines, Bunnies, Crow s feet, Laught lines, Lip lines, Marionette lines. BTA enjected mainly to those dynamic facial muscles: Frontais muscle, orbicularis occuli, procerrius muscle, corrigator supercilia, orbicularis oris, mentalis muscle. To achive better results the main activity of the muscle, and the effects of paralising this activity, must be kept in mind. The functional and cosmeticaly copmlications can be prevented by taking care of injection points and units. The main cosmetic complications are: The Mephisto sign, Braw ptosis, palpebral pitosis, strabismus, drooling. BTA is diluated with 2.5 ml of sterile saline and yielded 20 U for each 0.1 ml. Varrying according to the servety of wrinkles, 2- 30 Units can be injected. From the centuries, as the sceince of beauty “Golden Ratio” is calculated. The ratio is the expression of ideal proportion of the face. BTA injections can help to achive Golden Ratio and eyebrow design also. The main BTA injection points and unites per area can be calculated to achieve best cosmetic results.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-10

ENTROPION: DEFINITION AND SURGICAL MANAGEMENT

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Abstract Text

Entropion is an inward rotation of the eyelid margin that leads to ocular surface irritation, corneal damage, and visual discomfort. It is commonly classified into involutional, cicatricial, spastic, and congenital types.

Involutional entropion is the most frequent form and is associated with horizontal eyelid laxity, disinsertion of the lower eyelid retractors, and overriding of the preseptal orbicularis muscle. Cicatricial entropion results from conjunctival scarring, while spastic entropion is typically secondary to ocular irritation.

Management of entropion is primarily surgical, aiming to correct the underlying anatomical abnormalities. Techniques include lateral tarsal strip procedures, everting sutures, retractor reinsertion, and lid margin rotation. The choice depends on the type and severity of the condition.

Tailored surgical approaches provide optimal functional and anatomical outcomes.

Key Words: Entropion, Eyelid malposition, Involutional entropion, Cicatricial entropion, Spastic entropion, Surgical correction, Eyelid surgery, Oculoplastic surgery, Lower eyelid, Lid margin rotation

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-11

ASSESSMENT OF MEIBOGRAPHY AND ITS CORRELATION WITH DRY EYE IN PATIENTS UNDERGOING ANTERIOR APPROACH BLEPHAROPTOSIS SURGERY

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Abstract text

Background: Postoperative dry eye symptoms are frequently observed after blepharoptosis surgery and may lead to ocular surface irregularities and progressive corneal complications such as epithelial defects. This study aimed to evaluate whether anterior tarsal-surface surgical manipulation affects the morphology and function of meibomian glands.

Methods: Twenty-five patients who underwent anterior-approach blepharoptosis surgery were included. Pre- and postoperative (3-month) tear break-up time (TBUT), Schirmer I test results, Ocular Surface Disease Index (OSDI) scores, and meibography findings obtained via Sirius topography were compared.

Results: Mean preoperative TBUT and Schirmer I values were 7.16 ± 3.47 s and 16.32 ± 11.39 mm, respectively, decreasing to 6.00 ± 2.14 s and 11.68 ± 8.38 mm postoperatively ($p = 0.017$, $p = 0.001$). Mean OSDI scores were 11.8 ± 3.1 before and 12.2 ± 3.3 after surgery. Severe dry-eye symptoms developed in four patients (16%). The mean meibomian gland loss area ratio increased from 16.2 ± 6.7% preoperatively to 29.9 ± 6.6% postoperatively ($p = 0.001$), with a significant rise in meiboscore values ($p = 0.004$).

Conclusion: Repeated or extensive tarsal incisions may cause distortion and segmentation of meibomian glands, leading to decreased secretory function. Awareness of potential meibomian gland impairment during anterior-approach blepharoptosis surgery is essential, as such alterations can result in clinically significant postoperative dry eye.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-12

OCULAR SURFACE NEOPLASMS

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Abstract text

Purpose: To evaluate the demographic characteristics, clinical features, diagnostic approaches, and treatment outcomes of eight patients diagnosed with ocular surface tumors.

Methods: In this retrospective case series, eight patients diagnosed with ocular surface tumors at our clinic were included. Data regarding age, sex, lesion localization, clinical presentation, treatment modalities, and follow-up duration were recorded. All patients underwent slit-lamp biomicroscopic examination. Excisional or incisional biopsy and histopathological evaluation were performed when indicated.

Results: The mean age of the patients was 52.9 ± 26.3 years (range: 9–88 years), with 5 males and 3 females. Lesions were most commonly located on the conjunctiva. One case demonstrated orbital invasion. The most frequent clinical findings included mass formation, increased pigmentation, hyperemia, and surface irregularity. Diagnoses comprised ocular surface squamous neoplasia spectrum, conjunctival nevus, B-cell lymphoma, and other benign lesions. Surgical excision was performed in all cases except for the lymphoma case; adjuvant therapies (cryotherapy and/or topical chemotherapy) were applied in selected patients. The case with orbital invasion underwent exenteration followed by referral for radiotherapy. During a mean follow-up period of 22.9 ± 20.8 months (range: 8–62 months), recurrence rates were low and no significant complications were observed.

Conclusion: Ocular surface tumors present with a broad clinical spectrum, and favorable outcomes can be achieved with early diagnosis and appropriate management. Surgical excision remains an effective primary treatment modality, while adjuvant therapies may reduce recurrence risk in selected cases. Larger studies are warranted to establish standardized management strategies for these tumors.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-14

A FIVE-YEAR ANALYSIS OF PEDIATRIC ORBITAL FRACTURES: EVALUATION OF CLINICAL AND ETIOLOGICAL FACTORS

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Abstract Text:

Introduction: This study aimed to evaluate the demographic characteristics, injury mechanisms, associated pathologies, and final examination findings of pediatric patients with orbital fractures.

Materials and Methods: The medical records of pediatric patients who presented to the Department of Ophthalmology, Akdeniz University Faculty of Medicine, with orbital fractures between January 2020 and December 2024 were retrospectively reviewed. Demographic data, trauma etiology, fracture localization, associated injuries, clinical findings, and applied treatment modalities were recorded.

Results: A total of 118 patients were included in the study. The mean age was 11.0 ± 5.3 years; 90 patients (76.3%) were male and 28 (23.7%) were female. Additional orbital injuries were detected in 11 patients (9.3%). Injuries occurred in a home setting in 20 patients (16.9%) and in outdoor settings in 98 patients (83.1%). Regarding trauma etiology, orbital fractures developed following in-vehicle traffic accidents in 18 patients (15.3%), pedestrian/out-of-vehicle traffic accidents in 23 (19.5%), motorcycle accidents in 23 (19.5%), falls in 38 (32.2%), assault/blunt trauma in 15 (12.7%), and firearm injury in 1 patient (0.8%). Analysis of fracture localization revealed superior orbital wall fractures in 41 patients (34.7%), inferior wall fractures in 45 (38.1%), medial wall fractures in 47 (39.8%), and lateral wall fractures in 37 (31.4%). Displaced fractures were present in 67 patients (56.8%). With respect to treatment, orbital decompression was performed in 1 patient, blow-out fracture repair in 3 patients, canalicular laceration repair in 2 patients, lateral orbital wall repair in 1 patient, and lower eyelid entropion surgery in 1 patient.

Conclusion: In the pediatric age group, the medial orbital wall was the most frequently involved site in orbital fractures. More than half of the orbital fractures (54.2%) were associated with traffic accidents. Early diagnosis and appropriate management are considered critical in preventing permanent oculomotor dysfunction and neurological sequelae.

Key Words: Orbital fractures, pediatric, orbital trauma

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-15

INTRAOPERATIVE CHALLENGES IN REVISION DACRYOCYSTORHINOSTOMY FOR RECURRENT NASOLACRIMAL DUCT OBSTRUCTION

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Abstract Text:

Background: Revision dacryocystorhinostomy (DCR) is a complex procedure often complicated by anatomical distortion and significant scarring from previous surgeries. Identifying the specific causes of failure—whether related to bone work, mucosal management, or tissue healing—is essential for optimizing outcomes. This study aims to analyze intraoperative findings in revision cases to identify common patterns of failure associated with different primary surgical techniques.

Methods: A retrospective clinical analysis was conducted on 23 eyes of 21 patients (17 females, 4 males; mean age 53 years) who underwent revision external DCR for recurrent nasolacrimal duct obstruction. Previous interventions included laser-assisted DCR (3 eyes), external DCR (14 eyes), and endoscopic DCR (6 eyes). Intraoperative parameters evaluated included the presence of fibrosis, osteotomy size and location, lacrimal sac integrity, and the status of the nasal mucosal flaps.

Results: Distinct failure patterns were identified based on the initial surgical method. In post-laser DCR cases, significant lacrimal sac contraction and thermal-induced mucosal atrophy were the primary findings. Revision after external DCR was most frequently hindered by dense subcutaneous fibrosis, obliteration of surgical planes, and inadequate or malpositioned osteotomies (typically too small or positioned too anteriorly). In post-endoscopic DCR cases, failure was primarily attributed to neo-ostium cicatrization, granulation tissue, and insufficient bone removal at the level of the lacrimal fundus.

Conclusion: The surgical complexity of revision DCR is strictly dictated by the initial intervention type. Inadequate osteotomy and extensive cicatrization represent the most common mechanisms of failure in external DCR, while mucosal atrophy and neo-ostium scarring are hallmarks of failed laser and endoscopic procedures, respectively. Successful revision requires a customized surgical approach to navigate distorted anatomy and ensure a wide, patent osteotomy with tension-free mucosal anastomosis.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-16

EVALUATION OF HISTOPATHOLOGICAL CHANGES IN THE LACRIMAL SAC, NASAL BONE, AND NASAL MUCOSA IN PRIMARY ACQUIRED NASOLACRIMAL DUCT OBSTRUCTION

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Abstract text:

Background: The primary acquired nasolacrimal duct obstruction (PANDO) causes epiphora, punctal discharge, or medial canthal swelling. Although the etiology of PANDO may be idiopathic, the nasolacrimal duct obstruction may be associated with infection, inflammation, neoplasm, and other factors. Many aspects of the pathogenesis of PANDO remain poorly understood. This study was designed to illuminate the pathogenesis of PANDO while evaluating the histopathological changes in the lacrimal sac, nasal bone, and nasal mucosa.

Methods: This prospective case series was conducted at the Ophthalmology Department of Hatay Training and Research Hospital. Patients who underwent to external dacryocystorhinostomy due to PANDO were included into this study. Lacrimal sac, nasal bone, and nasal mucosa samples were obtained and evaluated histopathologically.

Results: This study includes 31 patients (male-to-female ratio is 10/21), and the mean age of the patients was 52.16±9.12 years (43-67). The intensity of inflammatory cell infiltration, fibrotic changes, and capillary proliferation within the lacrimal sac wall varied across the samples. The median value of chronic inflammation score (CIS) for the lacrimal sac which a composite measure reflecting overall inflammatory activity within the tissue, was 6 (3-7). The CIS was classified as mild in 3 cases (9.68%), moderate in 22 cases (70.97%), and severe in 6 cases (19.35%). Histopathological evaluation of the nasal bone revealed entirely normal. Evaluation of nasal mucosa showed no chronic inflammatory cell infiltration in 7 cases (23.33%), mild infiltration in 18 cases (60.00%), and moderate infiltration in 5 cases (16.67%).

Conclusions: This study confirms that PANDO is characterized histopathologically by chronic lymphoplasmacytic inflammation, associated fibrosis, and capillary proliferation within the lacrimal sac. These changes, alongside inflammatory involvement of adjacent nasal mucosa but sparing of nasal bone. Understanding the inflammatory and fibrotic mechanisms involved in PANDO may inform future preventive and therapeutic strategies.

Key Words: Dacryocystorhinostomy, Nasolacrimal duct obstruction, PANDO.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-17

TRADITIONAL OR PLEXR LASER BLEPHAROPLASTY, WHICH HAS THE ADVANTAGES?

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Abstract Text:

Introduction. Blepharoplasty is one of the most widely used procedures in aesthetic surgery, aimed at eliminating age-related morphological changes in the eyelids. Along with traditional surgical blepharoplasty, non-invasive Plexr plasma laser technology has been introduced into practice in recent years.

Objectives: Comparative analysis of the clinical effectiveness, advantages and limitations of traditional and Plexr plasma (PP) laser blepharoplasty.

Materials and methods: The study analyzed data from patients with age-related changes in the upper and lower eyelids. Patients were divided into two groups: traditional and PP laser blepharoplasty. The study included 40 patients (80 eyes) aged 25–60 years, of whom 22 (44 eyes) were included in the traditional group and 18 (36 eyes) in the PP laser group.

Results: The traditional method completely removed excess skin and fatty tissue. The Plexr method showed a shorter rehabilitation period and improved skin tightness. In the traditional group, 90% of patients achieved stable aesthetic results due to complete removal of excess skin and fatty tissue, with an average rehabilitation period of 10–14 days. In the PP laser group, 85% of patients had a significant improvement in skin tension, minimal postoperative swelling and pain, and the rehabilitation period was an average of 5–7 days. No serious complications were noted in either group.

Conclusion: Traditional surgical blepharoplasty has high clinical efficacy in cases with large amounts of excess skin and fatty tissue, as well as moderate to severe ptosis, and provides stable and long-term aesthetic results. Plexr plasma laser blepharoplasty is effective in cases with mild to moderate age-related skin sagging and fine wrinkles, and is characterized by minimal invasiveness, low incidence of postoperative complications, and a short rehabilitation period. When choosing a blepharoplasty method, a decision should be made based on an individual clinical approach, taking into account the patient's age, the degree of anatomical changes in the eyelids, the severity of ptosis, and the general somatic condition.

Key Words: blepharoplasty, plexr, plasma laser, ptosis, aesthetic ophthalmic surgery.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-18

TREATMENT OF AN EYELID TUMOR

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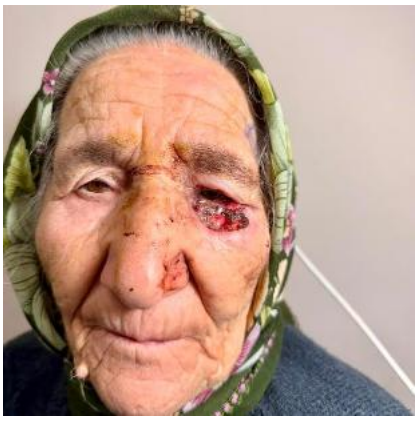
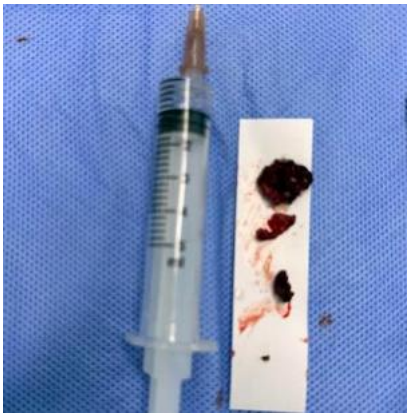
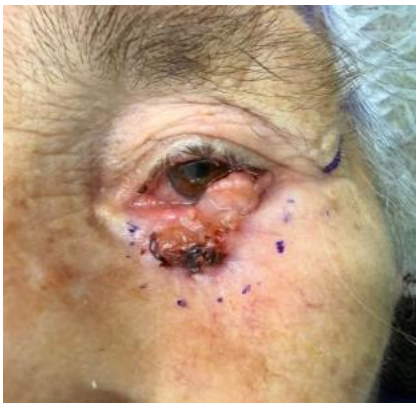
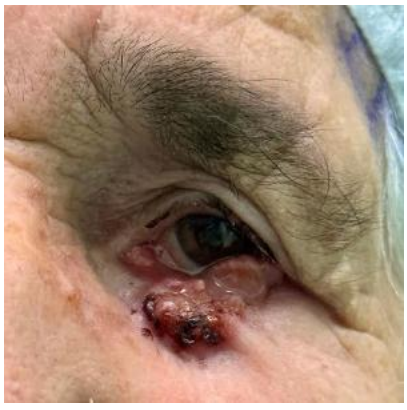
Abstract text

An 81-year-old female patient had a long-standing mass growing on her left lower eyelid. She was diagnosed with basal cell carcinoma during a dermatological examination, and surgical treatment was planned. Although a graft was initially planned to close the wound, it was decided that this was not necessary post-operatively. The patient is currently being followed up in the dermatology department.

Key Words: Basal cell Carsinoma, bcc, eyelid tumor, bcc surgey, tumor surgery

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-19

FRONTALIS MUSCLE ADVANCEMENT COMBINED WITH LEVATOR RESECTION IN PATIENTS WITH POOR LEVATOR FUNCTION

Şenay Aşık

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Abstract text

Background: To evaluate the outcomes of combined supramaximal levator resection and frontalis muscle advancement for surgical management of severe blepharoptosis.

Methods: Retrospective, nonrandomized interventional case series. A retrospective review was performed of patients who underwent combined levator resection and frontalis muscle advancement for severe blepharoptosis between 2021 and 2023. Inclusion criteria were levator function of 4 mm or less and margin reflex distance 1 (MRD1) of 0 mm or less. Main outcome measures were postoperative MRD 1, lagophthalmos, lash angle, and grades of eyelid contour and crease.

Results: Four patients (4 eyelids) met the inclusion criteria. Preoperative MRD1 improved in all cases mm with an average lagophthalmos. All eyelids had good eyelid contour, crease, and eyelash angle at the final follow-up. Any eyelid required revision surgery.

Conclusıons: For severe blepharoptosis, combining levator resection and frontalis muscle advancement is an effective method and alternative for frontal sling.

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-20

PROSPECTIVE EVALUATION OF IRIDOCORNEAL ANGLE AND ANTERIOR SEGMENT CHANGES FOLLOWING LOWER EYELID BLEPHAROPLASTY: EVIDENCE OF TRANSIENT, REVERSIBLE OCULAR BIOMECHANICAL ALTERATIONS

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[2] Agri Ibrahim Cecen University, Faculty of Medicine, Department of Ophthalmology, Agri, Turkiye

Abstract text

Purpose: To investigate early postoperative changes in intraocular pressure (IOP) and anterior segment morphology—particularly the iridocorneal angle (ICA)—after lower eyelid blepharoplasty, and to determine whether these alterations are transient or persistent. To our knowledge, this is among the first studies to prospectively quantify ICA dynamics following lower eyelid surgery.

Methods: This prospective study included 33 eyes of 33 patients undergoing lower eyelid blepharoplasty between November 2024 and February 2025. IOP was measured by Goldmann applanation tonometry. Scheimpflug-based tomography assessed central corneal thickness (CCT), anterior chamber depth (ACD), anterior chamber volume (ACV), iridocorneal angle (ICA), axial length (AL), and pupil diameter (PD) preoperatively and on postoperative days 1 and 7. Nonparametric statistics were used (Friedman test with Holm-adjusted Wilcoxon post-hoc comparisons).

Results: A significant transient IOP elevation was observed on postoperative day 1 ($p<0.001$), normalizing by day 7 ($p = 0.94$). The ICA significantly narrowed from 33.56° to 30.03° on day 1 ($p<0.001$) and partially reopened to 33.27° by day 7 ($p<0.001$). Similar reversible reductions were found in ACD, AL, and ACV (all $p<0.001$). CCT and PD remained stable ($p>0.05$).

Conclusions: Lower eyelid blepharoplasty induces short-lived biomechanical changes in anterior segment configuration, most notably a transient narrowing of the iridocorneal angle, an underreported finding in blepharoplasty literature. These reversible alterations likely result from temporary orbital pressure changes rather than structural damage. Preoperative gonioscopy and postoperative IOP monitoring are advisable, especially in glaucoma or narrow-angle suspects.

Keywords: Lower eyelid blepharoplasty, iridocorneal angle, intraocular pressure, anterior chamber, ocular biomechanics, Scheimpflug tomography

OS: OCULOPLASTIC SESSIONS ORAL PRESENTATIONS ABSTRACTS

OS-21

THE IMPACT OF NASAL CONDITIONS ON PATIENTS WITH EPIPHORA: AN EVALUATION OF THOSE UNDERGOING PROBING

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Abstract text:

Objective: To investigate the frequency of accompanying nasal pathologies in pediatric patients who underwent nasolacrimal duct probing for epiphora and to evaluate the relationship between nasal pathologies and persistent postoperative epiphora.

Methods: This retrospective study included pediatric patients who underwent nasolacrimal duct probing due to epiphora. All patients were evaluated using nasal endoscopy, and accompanying nasal pathologies such as septal deviation, inferior concha hypertrophy, and adenoid vegetation were recorded. Adenoid vegetation was graded endoscopically. The relationship between the laterality of nasal pathologies and the side of probing was analyzed. Postoperative epiphora status was documented, and the association between nasal pathologies and surgical outcomes was evaluated.

Results: A substantial proportion of patients had at least one accompanying nasal pathology. The most frequently observed nasal pathologies were inferior concha hypertrophy and adenoid vegetation. Nasal pathologies were more commonly detected on the same side as the probing procedure. Although the rate of persistent postoperative epiphora increased numerically with higher grades of adenoid vegetation, this association did not reach statistical significance. The presence of septal deviation and inferior concha hypertrophy on the probed side was associated with a significantly higher rate of persistent postoperative epiphora compared to eyes without these pathologies. Moreover, eyes with multiple nasal pathologies had a significantly higher rate of persistent postoperative epiphora than those with a single nasal pathology.

Conclusion: Accompanying nasal pathologies are common in pediatric patients undergoing nasolacrimal duct probing for epiphora and may adversely affect surgical outcomes. The likelihood of persistent postoperative epiphora increases in the presence of multiple nasal pathologies. Preoperative nasal endoscopic evaluation may help identify patients at higher risk for persistent epiphora and supports the importance of a multidisciplinary approach in patient management.

Key Words: Epiphora, Nasolacrimal duct obstruction, Probing, Nasal pathology, Adenoid hypertrophy

RS: RETINA SESSIONS ORAL PRESENTATIONS ABSTRACTS

RS-1

COMPARISON OF POSTOPERATIVE OUTCOMES IN MACULAR HOLE PATIENTS AFTER CLASSICAL VS. TEMPORAL INVERTED FLAP TECHNIQUES GUIDED BY OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY

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Abstract text

Introduction: Comparison of postoperative results of macular hole patients who underwent classical or temporal inverted flap internal limiting membrane (ILM) technique under optical coherence tomography angiography (OCTA) guidance.

Methods: Preoperative visual acuity, basal hole diameter, postoperative visual acuity, foveal, parafoveal and perifoveal vessel density in OCTA and foveal avascular zone (FAZ) of the patients were evaluated and compared.

Results: No significant difference was found between the two groups in terms of visual acuity, OCT and OCTA findings. Basal hole diameter was significantly higher in the inverted flap group. (Classic: 867.01±297.97, inverted flap: 1022.67±269.37, p=0.032) Postoperative FAZ was also found to be significantly higher in the inverted flap group. (Classical: 0.2±0.08, inverted flap: 0.26±0.11, p=0.048)

Discussion: Although the mean preoperative basal hole diameter was significantly higher than the classical group, no difference was found in postoperative visual acuity and OCTA measurements, showing that the inverted flap technique is very effective in large and chronic holes.

Key Words: Macular hole, inverted flap, internal limiting membrane peeling, optical coherence tomography angiography

RS-2

ARTIFICAL INTELLIGENCE IN PREDICTING FUNCTIONAL OUTCOMES AFTER FULL-THICKNESS MACULAR HOLE SURGERY

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Abstract text

Background: Predicting postoperative visual outcomes following full-thickness macular hole (FTMH) surgery remains challenging due to variability in anatomical and functional recovery. The use of artificial intelligence (AI) may enhance clinical decision-making by providing data-driven predictions, addressing a current gap in precision outcome forecasting. This study evaluated the clinical utility of a ChatGPT-4o-based artificial intelligence (AI) model in predicting postoperative visual outcomes following full-thickness macular hole (FTMH) surgery using the inverted internal limiting membrane (ILM) flap technique.

Methods: A retrospective analysis was performed on 45 patients who underwent pars plana vitrectomy for FTMH between January 2021 and December 2023. Preoperative optical coherence tomography (OCT) images, demographic data, and clinical parameters were analyzed using the AI model to predict best-corrected visual acuity (BCVA) at four postoperative time points. Predicted BCVA values were compared with actual clinical outcomes.

Results: Preoperatively, the mean AI-predicted BCVA was 1.13 ± 0.20 logMAR compared to the actual 1.24 ± 0.33 logMAR ($p = 0.192$). At six months, the predicted BCVA was 0.65 ± 0.20 logMAR versus the actual 0.67 ± 0.25 logMAR ($p = 0.528$), and at twelve months, 0.47 ± 0.17 logMAR versus 0.55 ± 0.27 logMAR ($p = 0.155$). However, at seven days postoperatively, the model significantly overestimated visual impairment, predicting 1.37 ± 0.28 logMAR versus the actual 1.07 ± 0.33 logMAR (p < 0.001).

Conclusions: These findings demonstrate the model's potential as a supportive tool for visual outcome prediction after FTMH surgery. Its accuracy at later stages and natural language interface may facilitate surgical planning and enhance patient communication.

Key Words: macular hole, ILM flap, AI prediction

RS-3

RETINAL MICROVASCULAR MORPHOLOGICAL ALTERATIONS IN ALPHA-1 ANTITRYPSIN DEFICIENCY: A PROTECTIVE MECHANISM OR AN INFLAMMATORY MARKER?

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Abstract text

Objective: To evaluate the retinal microvascular morphology in patients with alpha-1 ntitrypsin deficiency (AATD) and compare the results to those of healthy individuals using optical coherence tomography angiography (OCTA).

Methods: This study included 35 patients (70 eyes) diagnosed with AATD (group 1) and 41 age- and gender-matched healthy individuals (82 eyes, group 2). A 6×6 mm OCTA scan was used to quantify macular microvascular morphology. The metrics included superficial and deep capillary plexus vessel densities (SCP and DCP VDs), foveal avascular zone parameters, and outer retinal and choriocapillaris flow areas were comparatively analyzed between groups.

Results: The mean age was 62.74 ± 11.12 and 60.10 ± 7.21 years in groups 1 and 2, respectively (p = 0.216). There was no significant gender distribution between groups (p=0.059). Group 1 was associated with significantly decreased DCP VD, particular in the parafoveal region (p=0.024). No other OCTA parameters showed significant intergroup differences.

Conclusions: This study found a specific decline in parafoveal microvascular density in those with AATD, whereas other retinal vascular parameters remained unchanged. These findings suggest that AATD may exert regional and selective effects on retinal microvasculature. The preservation of overall vascular integrity may support a potential protective role of AAT, whereas parafoveal density reduction could indicate subclinical retinal involvement.

Key Words: Alpha-1antitrypsin deficiency, Macula lutea, Microcirculation, Optical coherence tomography angiography, Retina, Retinal vessels

RS-4

COMPARISON OF RETINAL AND CHOROIDAL TISSUES BETWEEN AMBLYOPIA PATIENTS AND THE NORMAL POPULATION WITH OCT AND OCTA

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Abstract Text:

Purpose: This study aimed to evaluate structural and microvascular changes in amblyopic eyes using optical coherence tomography (OCT) and optical coherence tomography angiography (OCTA), and to compare these findings with fellow eyes and eyes of healthy individuals.

Materials and Methods: This cross-sectional, controlled study was conducted at Hitit University Faculty of Medicine between March and May 2025. A total of 195 eyes were examined, including both eyes of 65 patients aged 5–14 years diagnosed with amblyopia and the right eyes of 65 healthy controls. Refractive measurements were obtained using a TOPCON KR-8900 autorefractometer, and axial length was measured with the Nidek AL-Scan optical biometry device. OCTA images were acquired using the Topcon Triton SS-OCT device, while retinal and choroidal evaluations were performed with the Spectralis Heidelberg Engineering OCT system. Structural parameters included macular thickness, ganglion cell layer (GCL), inner plexiform layer (IPL), retinal nerve fiber layer (RNFL), and choroidal thickness. Additionally, luminal area (LA), total choroidal area (TCA), and choroidalvascularity index (CVI) were calculated.

Results: Visual acuity was significantly reduced in amblyopic eyes compared with fellow and control eyes ($p<0.05$). Amblyopic eyes demonstrated significantly shorter axial length and higher spherical equivalent values ($p<0.05$). Subfoveal, nasal, and temporal choroidal thicknesses were significantly increased in amblyopic and fellow eyes compared with controls ($p<0.05$). Except for the foveal region, macular thickness and IPL thickness were significantly greater in amblyopic eyes across all quadrants ($p<0.05$). RNFL analysis revealed significant differences in specific quadrants. OCTA assessment showed a reduced superficial inferior capillary plexus vessel density in amblyopic eyes compared with fellow and control eyes ($p<0.05$). Choroidal vascular analysis demonstrated increased LA and TCA in amblyopic eyes, whereas CVI was significantly lower than in control eyes ($p<0.05$).

Conclusion: Amblyopia is associated not only with functional impairment but also with significant structural and microvascular alterations in the retina and choroid. OCT and OCTA provide valuable insights into the diagnostic evaluation and pathophysiological mechanisms of amblyopia.

Keywords: Amblyopia, Ganglion Cell Layer, Choroidal Thickness, Choroidal Vascularity Index, Optical Coherence Tomography, Optical Coherence Tomography Angiography, Retinal Thickness

RS-5

ASSESMENT OF MACULAR MIKROVASCULAR AND STRUCTURAL CHANGES POST CATARACT SURGERY IN TYPE 2 DIABETES MELLITUS PATIENTS WITHOUT DIABETIC RETINOPATHY USING OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY

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Abstract Text:

Purpose: To evaluate macular microvascular and structural changes before and after phacoemulsification cataract surgery in patients with type 2 diabetes mellitus (DM) without diabetic retinopathy using optical coherence tomography angiography (OCTA).

Materials and Methods: This prospective study included 52 eyes of 52 patients diagnosed with cataract. Patients were divided into two groups: the study group consisting of diabetic patients without retinopathy (n=26) and the control group consisting of non-diabetic patients (n=26). Central macular thickness (CMT), subfoveal choroidal thickness (SFCT), and ganglion cell complex (GCC) thickness were measured using swept-source optical coherence tomography (SS-OCT), while vascular densities of the superficial capillary plexus (SCP), deep capillary plexus (DCP), choriocapillaris (CC), and foveal avascular zone (FAZ) measurements were obtained using SS-OCT angiography preoperatively and at postoperative week 1, month 1, and month 3.

Results: No significant differences were observed between the groups in terms of age, sex, eye laterality, best-corrected visual acuity, spherical equivalent, intraocular pressure, or axial length ($p>0.05$). CMT increased significantly at postoperative months 1 and 3 in the diabetic group ($p=0.005$, $p=0.004$), whereas it increased only at month 1 in the control group ($p=0.037$). SFCT remained unchanged ($p>0.05$). GCC+ and GCC++ values increased at months 1 and 3 in both groups ($p<0.05$). Vascular densities in SCP and DCP increased at month 1 in both groups ($p<0.05$), and this increase persisted at month 3 in the foveal and multiple quadrants. CC changes were mild and did not differ between the groups. FAZ remained stable ($p>0.05$). Image quality improved in both groups ($p<0.001$). No differences were observed regarding cumulative dissipated energy or effective phacoemulsification time.

Conclusion: Following cataract surgery, macular vascular density increases along with increases in CMT and GCC thickness. Early and intermediate postoperative changes in OCT and OCTA parameters show a similar course in type 2 diabetic patients without diabetic retinopathy and in non-diabetic individuals.

Key Words: macula, superficial capillary plexus, deep capillary plexus, cataract surgery, optical coherence tomography angiography

RS-6

IMPROVING THE SURGERY OF FULL-THICKNESS MACULAR HOLES: A COMPARISON OF 10 SURGICAL TECHNIQUES

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Abstract text

Introduction / Background: Full-thickness macular hole (FTMH) surgery has expanded beyond conventional internal limiting membrane (ILM) peeling; however, robust comparative evidence across contemporary techniques remains limited, particularly for large holes and complex OCT morphologies. This study aims to compare anatomical and functional outcomes of nine pars plana vitrectomy (PPV)–based surgical techniques for idiopathic FTMH and to develop an evidence-informed algorithm for technique selection.

Methods: This prospective, randomized, single-center comparative study will enroll approximately 100–120 adults with idiopathic FTMH (Gass stages 2–4). Participants will be allocated to one of nine surgical groups using stratified block randomization by baseline minimum linear diameter (MLD): <250, 250–400, 401–535, 536–799, and ≥800 µm. The primary endpoint is anatomical hole closure assessed by masked spectral-domain optical coherence tomography (SD-OCT) grading. Secondary endpoints include change in best-corrected visual acuity (BCVA), restoration of outer retinal layers (ELM/ellipsoid zone), complication rates, and need for reoperation. Follow-up visits are scheduled preoperatively and postoperatively at 1 week, 1 month, and 12 months.

Results: The study will quantify closure rates and visual outcomes across the nine techniques overall and within MLD strata, and will evaluate OCT-based predictors of surgical success. Comparative analyses will identify techniques associated with higher closure probability and improved functional recovery, particularly in large macular holes.

Conclusions: A head-to-head randomized comparison of nine contemporary FTMH surgical techniques, stratified by hole size, may clarify optimal approaches for different morphometric profiles and support a practical decision algorithm to improve anatomical closure, visual outcomes, and surgical standardization.

Key Words: full-thickness macular hole; pars plana vitrectomy; internal limiting membrane; optical coherence tomography; anatomical closure; surgical techniques; stratified randomization

RS-7

RETROSPECTIVE ANALYSIS OF THE CLINICAL AND SYSTEMIC CHARACTERISTICS OF PATIENTS PRESENTING TO OUR CLINIC WITH RETINAL ARTERY OCCLUSION

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Abstract Text:

Background: Retinal artery occlusion (RAO) is an acute ischemic event that reflects underlying systemic vascular disease. Optical coherence tomography (OCT) and OCT angiography (OCTA) provide valuable structural and microvascular information, yet their relationship with clinical severity and visual outcomes remains incompletely defined. This study aimed to evaluate OCT and OCTA findings in RAO and investigate their association with visual acuity and systemic characteristics.

Methods: This retrospective observational study included patients diagnosed with RAO who presented to a tertiary referral center between January 2023 and December 2025. Patients with coexisting retinal diseases affecting OCT or OCTA interpretation were excluded. Demographic data, systemic vascular risk factors, and time from symptom onset to presentation were recorded. Best-corrected visual acuity (BCVA) was converted to logMAR units. OCT severity was graded using baseline images according to inner retinal hyperreflectivity, thickening, and disruption of layer stratification, classifying eyes into three severity levels. The presence of the prominent middle limiting membrane (PMLM) sign was assessed. Parafoveal vessel density of the superficial and deep vascular plexuses was analyzed using OCTA. Statistical analyses were performed using SPSS.

Results: 25 patients were included (median age: 59 years;60% male). Higher OCT severity was significantly associated with worse BCVA (P= .009). Time to presentation differed across OCT severity grades (P = .047), with earlier presentation observed in patients with more severe OCT findings. OCT severity showed no significant correlation with superficial or deep parafoveal vessel density (p >0.05). The PMLM sign was associated with lower OCT severity (P=.012), but not with BCVA.

Conclusion: OCT severity is closely related to visual outcome in RAO and marker of ischemic retinal damage. The PMLM sign may indicate an earlier stage of ischemia but does not independently predict visual acuity.OCT findings appear more reflective of disease severity than OCTA vessel density measurements in RAO.

Key Words: Retinal artery occlusion, OCT severity, OCTA

RS-8

MACULAR TELANGIECTASIA TYPE 2 ACCOMPANIED BY BILATERAL DRUSEN A RARE CASE PRESENTATION

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Abstract text

Introduction/Background: Macular telangiectasia type 2 (MacTel-2) is a rare bilateral retinal disease typically characterized by parafoveal telangiectasia, intraretinal cavitations, and progressive loss of central vision. While diagnosis relies on multimodal imaging, atypical presentations involving drusen;features more commonly associated with age-related macular degeneration (AMD), are rarely reported in MacTel-2. This report describes an unusual case of MacTel-2 accompanied by widespread bilateral drusen and drusenoid pigment epithelial detachment (PED).

Methods: A 65-year-old female patient with a two-year history of bilateral progressive visual impairment was evaluated. Best-corrected visual acuity (BCVA) was 20/100 in both eyes. A comprehensive ophthalmologic examination and multimodal imaging, including color fundus photography (CFP), fundus autofluorescence (FAF), and optical coherence tomography (OCT), were performed to analyze the coexistence of macular and peripheral retinal findings.

Results: OCT of the right eye demonstrated prominent drusenoid PED, intraretinal cysts, and characteristic cavitations. The left eye showed significant retinal pigment epithelium (RPE) atrophy along with multiple drusenoid deposits. FAF imaging revealed sharply demarcated areas of altered autofluorescence (hypo/hyperautofluorescence) corresponding to the macular lesions. CFP confirmed hyperpigmented macular changes consistent with MacTel-2 and a widespread distribution of drusen extending from the perimacular region into the mid periphery in both eyes.

Conclusions: This case highlights the critical importance of multimodal imaging in identifying atypical MacTel-2 presentations. The presence of widespread drusen suggests a potential overlap or shared pathophysiological mechanisms with AMD. Recognizing these uncommon features is vital for ensuring accurate diagnosis and avoiding inappropriate interventions, such as anti-VEGF therapy in nonexudative cases.

Key Words: Macular telangiectasia type 2, drusen, drusenoid pigment epithelial detachment, multimodal imaging, retina pigment epithelium atrophy

RS-9

POSTERIOR SUB-TENON TRIAMCINOLONE INJECTION IN THE TREATMENT OF POSTOPERATIVE CYSTOID MACULAR EDEMA DUE TO VARIOUS ANTERIOR SEGMENT SURGERIES

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Abstract text

Background: To evaluate the efficacy and safety of sub-Tenon triamcinolone (STT) injection as a first-line treatment in cystoid macular edema (CME) developing following various anterior segment surgeries.

Methods: This retrospective study included 26 patients who developed CME after various anterior segment surgeries and underwent STT injection. The type of surgery performed, the time between surgery and the onset of CME, and follow-up periods were recorded. Best corrected visual acuity (BCVA), central macular thickness (CMT), and intraocular pressure (IOP) were measured before STT injection and at 1, 3, and 6 months, and at the last visit after injection. These values were compared and analyzed before the injection, at the specified time intervals, and at the last visit. The response to STT injection was evaluated.

Results: Postoperative CME was most frequently observed after complicated phacoemulsification surgery (46.2%), followed by the Yamane technique (30.8%), uncomplicated phacoemulsification (19.2%), and secondary intraocular lens implantation in the ciliary sulcus (3.8%). The mean time to the onset of CME after surgery was 7.6 ± 1.5 weeks, and the mean follow-up period was recorded as 36.8 ± 11.3 weeks. Compared to before STT injection, statistically significant improvement was observed in BCVA and CMT values at all follow-up periods and at the last visit ($p=0.001$, for both), while no significant difference was found in IOP measurements ($p=0.572$). At the last visit, CME had completely resolved in 23 (88.5%) patients, partially resolved in 3 (11.5%) patients, and no resistance was observed in any patient.

Conclusions: This research demonstrates that STT injection, used in the treatment of CME that develops following anterior segment surgeries, may be a safe and highly effective first-line treatment option that significantly improves visual and anatomical outcomes.

Key Words: Phacoemulsification, Yamane technique, postoperative cystoid macular edema, sub-Tenon triamcinolone

RS-10

COMPARISON OF THREE LOADING DOSES OF BEVACIZUMAB AND RANIBIZUMAB FOR DIABETIC MACULAR EDEMA

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Abstract text

Introduction: To compare the effectiveness and safety of three loading doses of bevacizumab and ranibizumab for diabetic macular edema (DME).

Methods: Treatment-naive patients with DME were included in this retrospective study. The patients were divided into two groups: the bevacizumab-first group and the ranibizumab group. Patients in the bevacizumab-first group were treated with three loading doses of bevacizumab followed by pro-re-nata (PRN) regimen of ranibizumab. Patients in the ranibizumab group received three loading doses of ranibizumab followed by PRN regimen of ranibizumab. Mean change in best corrected visual acuity (BCVA), central macular thickness (CMT) and the number of injections were evaluated.

Results: A total of 54 eyes from 42 patients were included in the study. The bevacizumab- first group consisted of 25 eyes, while the ranibizumab group included 29 eyes. The mean follow-up period was 14.8±1.9 months for the bevacizumab-first group and 14.0±1.9 months for the ranibizumab group. At the end of the follow-up period, there was no significant difference between the groups in terms of BCVA gain, reduction in CMT, or HbA1C levels. The mean number of injections within the follow-up period was 5.5±1.1 in the bevacizumab-first group and 5.8±1.4 in the ranibizumab group. This difference was not statistically significant (p = 0.453).

Conclusions: Since the mean number of injections was similar between the groups, bevacizumab may be considered a clinically effective alternative to ranibizumab for the initial three loading doses in patients with DME, particularly when cost is a limiting factor.

Keywords: Diabetic macular edema, bevacizumab, ranibizumab, loading dose

RS-11

EVALUATION OF THE EFFECTS OF INTRAVITREAL BEVACIZUMAB TREATMENT ON RETINAL AND CHOROIDAL STRUCTURES IN NEOVASCULAR AGE-RELATED MACULAR DEGENERATION

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Abstract text

Introduction: The aim of this study was to evaluate retinal and choroidal structural changes in treatment-naïve patients with neovascular age-related macular degeneration (nAMD) treated with bevacizumab over a 3-month period.

Methods: This prospective study included 50 eyes of 50 treatment-naïve nAMD patients. All patients underwent a comprehensive ophthalmological examination. Central macular thickness (CMT) and nasal, temporal, and subfoveal choroidal thicknesses were measured using enhanced depth imaging optical coherence tomography (EDI-OCT). Retinal layer thicknesses were obtained through macular OCT segmentation. OCT images were binarized using ImageJ software to measure total choroidal area (TCA), luminal area (LA), and stromal area (SA). The choroidal vascularity index (CVI) was defined as the ratio of LA to TCA. Patients received three intravitreal bevacizumab injections at monthly intervals. Measurements were performed at baseline and one month after each injections.

Results: CMT and subfoveal choroidal thicknesses showed a significant reduction after treatment ($p < 0.05$). Best-corrected visual acuity significantly improved compared to baseline ($p < 0.05$). Significant reductions were observed in the retinal nerve fiber layer, inner nuclear layer, and outer nuclear layer thicknesses ($p < 0.05$), while no significant changes were detected in other retinal layers ($p > 0.05$). TCA significantly decreased ($p = 0.007$) and LA also showed a significant reduction ($p = 0.021$). No significant differences were found in CVI, SA, or LA/SA ratios between pre- and post-treatment periods ($p > 0.05$).

Conclusions: The significant reductions in subfoveal choroidal thickness, TCA, and LA, together with decreases in CMT and specific retinal layers, suggest that bevacizumab has short-term effects on both retinal and choroidal structures in patients with nAMD.

Key Words: Anti-VEGF, Choroidal vascularity index, Image binarization, Segmentation, Subfoveal choroidal thickness

RS-12

THE EFFECTS OF FARICIMAB TREATMENT ON RETINAL PARAMETERS IN PATIENTS WITH MACULAR NEOVASCULARIZATION

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Abstract text:

This study evaluated the effect of faricimab treatment on key retinal parameters—specifically central macular thickness (CMT), choriocapillaris vascular density, and visual acuity—in patients diagnosed with macular neovascularization (MNV) secondary to neovascular age-related macular degeneration (nAMD). Retrospective analysis was performed on pre- and post-faricimab injection optical coherence tomography (OCT) and optical coherence tomography angiography (OCT-A) data of patients followed up in our clinic. Distribution characteristics were determined using the Shapiro-Wilk normality test, and appropriate statistical tests were applied. The findings indicated that faricimab provided a statistically significant reduction, particularly in CMT, and resulted in an improvement in visual acuity.

Introduction: Macular neovascularization (MNV) is a leading cause of central vision loss, particularly in diseases such as age-related macular degeneration (AMD). Anti-VEGF treatments have been the mainstay for managing this condition for many years. However, response to these treatments remains limited in some patients, bringing alternative approaches to the forefront. Faricimab, a new bispecific agent that targets both VEGF-A and ANG-2, has been developed and introduced into clinical practice. Faricimab reaches its highest plasma levels approximately 2 days after administration and does not accumulate in the vitreous or plasma even with repeated intravitreal injections. The mean apparent systemic and vitreous half-life of faricimab is approximately 7.5 days. This study investigated the changes in parameters such as CMT, vascular density, and visual acuity in patients who had previously received anti-VEGF therapy and were subsequently switched to faricimab.

Methods: The records of nAMD patients who received treatment and follow-up in the Retina Unit of the Ophthalmology Clinic at Ankara City Hospital between December 2023 and June 2025 were retrospectively reviewed. This retrospective study included 18 eyes of 15 patients with nAMD from our clinic who had previously undergone Intravitreal anti-VEGF treatment (IVT treatment), were switched to faricimab injection after a loading dose, and had at least one pre- and post-treatment OCT imaging. Parameters before and after faricimab treatment were compared. Data were classified as continuous and categorical. Normality of distribution was assessed using the Shapiro-Wilk test. The paired t-test was used for normally distributed data, and the Wilcoxon signed-rank test was used for non-normally distributed data. Furthermore, ROC analysis was performed to evaluate the potential of CMT to predict the presence of intraretinal fluid (IRF).

Results: Choriocapillaris vascular density: The mean was measured as 52.2% before treatment and 51.8% after treatment. Normality was met ($p > 0.05$), paired t-test ($p > 0.05$). Central Macular Thickness (CMT): The mean decreased from 301 ± 40.1 µm before the switch to 260 ± 34.2 µm after treatment. This difference was found

to be statistically significant based on the Wilcoxon test ($p < 0.05$). Visual Acuity: The mean logMAR value improved from 0.47 to 0.41. This change was also found to be statistically significant. ROC Analysis: The predictive power of CMT for the presence of IRF was found to be limited.

Discussion: Faricimab treatment provided a significant reduction in CMT and demonstrated a partial, yet significant, improvement in visual acuity. However, the change in choriocapillaris vascular density was not found to be statistically significant. These findings align with studies in the current literature. Particularly in cases that previously did not respond to anti-VEGF treatment, faricimab may be an effective alternative due to its different mechanism of action. The ROC analysis demonstrated that CMT alone is not a strong biomarker for the presence of IRF.

Conclusion: Faricimab provided morphological improvement by reducing CMT and offered a certain contribution to visual outcomes in patients with neovascular age-related macular degeneration. Although the use of CMT in predicting the presence of IRF is limited, it can be a valuable parameter in the overall assessment of treatment response. These results support that faricimab is an effective and reliable option in clinical practice. The molecular properties and pharmacokinetics of faricimab indicate that it is a promising treatment option for macular diseases.

Keywords: Faricimab, macular neovascularization, central macular thickness, OCT

RS-13

RETINAL ISCHEMIC PERIVASCULAR LESION IN PULMONARY EMBOLISM PATIENTS: AN OCT ANGIOGRAPHY STUDY

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Abstract text

Introduction/Background: To investigate the prevalence of retinal ischemic perivascular lesions (RIPLs) in pulmonary embolism (PE) patients.

Methods: In this retrospective case-control study, 70 eyes from patients with PE and 60 eyes from age- matched healthy controls were examined. Participants' RIPL numbers and locations were recorded. Quantitative analysis was conducted on the superficial capillary plexus (SCP) and deep capillary plexus (DCP) in areas where RIPLs were detected.

Results: The prevalence of RIPL was found to be higher in the eyes of patients with PE than in the control group (32.8% versus 11.6%, $p < 0.001$). PE patients had, on average, a higher number of RIPLs compared to controls (0.55 versus 0.11, $p < 0.001$). DCP vessel density (VD) (%) values in the superior (for perifovea superior-hemi p=0.039; for perifovea superior p=0.035) and inferior (for perifovea inferior-hemi p=0.027; for perifovea inferior p=0.045) temporal quadrants, where RIPLs are concentrated, were significantly lower. The presence of each RIPL was significantly associated with PE (OR = 4.45; 95% CI: 1.92–21.57; p = 0.033).

Conclusion: RIPLs are remnants of paracentral acute middle maculopathy (PAMM), known to arise due to the INL's heightened vulnerability to ischemia at the DCP level. This lesion has been associated with chronic ischemia exposure of the retina in many studies. The prevalence of RIPL was found to be higher in the eyes of patients with PE besides RIPLs were found to be 4 times more common in PE patients.

Key words: retinal ischemic perivascular lesions, pulmonary embolism, optical coherence tomography angiography

RS-14

OUR RESULTS WITH INTRAOCULAR MITOMYCIN-C USE IN THE TREATMENT AND PROPHYLAXIS OF PROLIFERATIVE VITREORETINOPATHY IN RECURRENT RETINAL DETACHMENTS

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Abstract Text:

Introduction/Background: Proliferative vitreoretinopathy (PVR) is the main cause of failure after retinal detachment (RD) surgery. The pathogenesis of PVR is complex and relies on numerous interactions that are not yet fully understood. The main treatment for PVR is still surgery. Many agents have been tried in addition to surgery to increase the success rate, but there are currently no pharmaceutical agents have been approved. For this purpose, we aimed to evaluate the effect of intraocular Mitomycin C (MMC) application combined with PVR surgery on treatment success in patients with recurrent RD due to PVR development

Methods: Records of patients between 2023 and 2024 were evaluated retrospectively. Patients with recurrent RD due to PVR after rhegmatogenous RD surgery were included in the study. 25G pars plana vitrectomy (PPV) performed in all cases. Intraoperative MMC was applied. We use 'Sandwich technique' described by Dr. Gurelik et al. (20 µg/0.1mL MMC concentration applied 1 minute). Demographics, surgical characteristics, visual outcomes, and complications that may related to MMC were analysed.

Results: 11 eyes of 11 patients (6 male,5 female) were included, the mean age: 56.09 ± 4.8 years. The mean interval between primary RRD repair and PVR surgery was: 48.7 ±12.8 days (29-90). There were no complications related to the intraocular use of MMC. CFT and RNFL measurements were similar and there was no significant difference (p>0.05). 2 of the 11 patients had PVR recurrence and RD requiring reoperation. Single procedure anatomical success rate was evaluated as 81.9%, final anatomical success rate was evaluated as 90.9%. Final functional success rate was evaluated as 72.8%.

Conclusions: Intraocular MMC application appears to be a beneficial treatment for retinal detachment with PVR. Further studies are needed to evaluate the safety, efficacy, and optimal delivery method of intraocular MMC.

Key Words: Retina, Mitomycin, Proliferative vitreoretinopati

RS-15

EVALUATION OF THE EFFICACY OF INTRAVITREAL ANTI-VEGF AS FIRST-LINE TREATMENT FOR VITREOUS HEMORRHAGE

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Abstract text:

Background: Vitreous hemorrhage is associated with many conditions, particularly proliferative diabetic retinopathy, retinal vein occlusions, trauma, and retinal tears. Treatment options include observation, laser photocoagulation, intravitreal injections containing anti–vascular endothelial growth factor (anti-VEGF), and pars plana vitrectomy. The aim of this study was to evaluate the effect of intravitreal bevacizumab injection in patients with vitreous hemorrhage.

Methods: In our study, patients diagnosed with vitreous hemorrhage in our clinic and treated with intravitreal bevacizumab as first-line therapy were retrospectively evaluated. The response of eyes to intravitreal bevacizumab was assessed according to etiology, and patients were classified as those diagnosed at the initial presentation and those who developed vitreous hemorrhage during follow-up.

Results: The mean age of the included patients was 62.15 ±10.25 years; 154 (47.7%) were female and 173 (52.3%) were male. The etiology of vitreous hemorrhage was diabetic retinopathy (DRP) in 280 (86.7%) patients, branch retinal vein occlusion (BRVO) in 35 (10.8%) patients, and central retinal vein occlusion (CRVO) in 8 (2.5%) patients. Vitreous hemorrhage was present at the initial presentation in 174 (53.9%) patients, while 149 (46.1%) developed vitreous hemorrhage during follow-up. After intravitreal anti-VEGF administration, hemorrhage resolved in 217 (67.2%) patients, and the mean time to resolution was calculated as 42.49 ± 35.73 days. Recurrence occurred in 53 patients (24.1%) within a mean of 7.89 ± 4.95 months, and pars plana vitrectomy (PPV) was performed in 17 of these patients (7.7%).

Conclusion: In the management of vitreous hemorrhage, intravitreal anti-VEGF injection is a safe, practical, and effective method. By reducing the need for pars plana vitrectomy, it may be a suitable option as first-line treatment.

Key words: vitreous hemorrhage, intravitreal anti-VEGF, pars plana vitrectomy

RS-16

FULMINANT POSTOPERATIVE ENDOPHTHALMITIS DUE TO PSEUDOMONAS STUTZERI FOLLOWING UNCOMPLICATED CATARACT SURGERY

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Abstract Text:

Background: Postoperative endophthalmitis is a rare but severe complication of cataract surgery that may result in profound visual loss. Although *Pseudomonas* species are associated with aggressive infections, *Pseudomonas stutzeri* is a rare causative organism. We report a case of fulminant postoperative endophthalmitis and its complex clinical course.

Case Presentation: A 63-year-old male with no known systemic disease presented with pain, redness, and vision loss in the left eye one week after uncomplicated cataract surgery performed for mature cataract. Comprehensive ophthalmologic examination and B-scan ultrasonography were performed. Prompt intravitreal antibiotic therapy and surgical management were initiated. At presentation, best-corrected visual acuity was 0.4 in the right eye and hand motions in the left eye. Slit-lamp examination of the left eye revealed upper eyelid edema, intense conjunctival hyperemia, hypopyon, 4+ anterior chamber cells, and pseudophakia. Intraocular pressure was 19 mmHg bilaterally. Fundus examination was obscured, and B-scan ultrasonography demonstrated increased vitreous echogenicity. Intravitreal vancomycin and ceftazidime were administered within one hour. Pars plana vitrectomy was performed six hours later under general anesthesia using vancomycin-added balanced salt solution, with removal of infectious membranes, endolaser photocoagulation, silicone oil tamponade, and repeat intravitreal antibiotics. Vitreous cultures yielded *Pseudomonas stutzeri*. Postoperative visual acuity improved progressively to counting fingers at 10 cm at week 1, 3 meters at day 2, 0.05 at week 1, and 0.15 at month 1, with a quiet anterior chamber and attached retina. Due to poor compliance with prone positioning, the patient presented at postoperative month 3 with recurrent visual loss, and inferior retinal detachment was detected. Silicone oil removal, repeat pars plana vitrectomy, 360-degree endolaser photocoagulation, and silicone oil reinjection were performed. At postoperative week 1, visual acuity was hand motions, with silicone observed in the anterior chamber and an attached retina.

Conclusion: *Pseudomonas stutzeri* may cause fulminant postoperative endophthalmitis with fluctuating visual outcomes despite early and aggressive treatment. Prompt diagnosis and timely surgical intervention are critical for anatomical success, although long-term visual prognosis may remain guarded.

RS-18

STRUCTURAL ALTERATIONS IN THE OPTIC NERVE HEAD, PERIPAPILLARY RETINA, AND CHOROID IN BRANCH RETINAL VEIN OCCLUSION: DIAGNOSTIC PERFORMANCE OF MULTIMODAL OCT PARAMETERS

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Abstract text

Introduction / Background: Branch retinal vein occlusion (BRVO) is the second most common retinal vascular disease. While traditionally viewed as a localized vascular event, emerging evidence suggests bilateral involvement implicating systemic vascular factors. Multimodal optical coherence tomography (OCT) enables comprehensive structural assessment of the optic nerve head, peripapillary retina, and choroid that may extend beyond clinically apparent disease.

Methods: This prospective, cross-sectional, case-control study enrolled 44 BRVO-affected eyes, 44 fellow eyes, and 42 healthy controls. High-resolution spectral-domain OCT imaging assessed circumpapillary retinal nerve fiber layer (RNFL), peripapillary choroidal thickness (PpCT), and optic nerve head parameters (Bruch's membrane opening diameter, lamina cribrosa thickness [LCT], depth [LCD], and curvature index [LCCI]). Measurements were performed by masked graders using standardized protocols. Receiver operating characteristic (ROC) analysis evaluated diagnostic performance of structural parameters.

Results: BRVO eyes demonstrated significantly thicker temporal RNFL (90.7 ± 5.89 µm) compared to fellow eyes (69.95 ± 3.18 µm) and controls (75.38 ± 2.9 µm; $p < 0.001$). Notably, nasal RNFL was reduced in both BRVO and fellow eyes relative to controls, suggesting bilateral involvement. Peripapillary choroidal thickness progressively decreased across groups: controls (186 µm) → fellow eyes (162 µm) → BRVO eyes (147 µm; $p < 0.001$). Lamina cribrosa parameters demonstrated progressive alterations from controls to fellow to BRVO eyes. Temporal RNFL achieved the highest diagnostic accuracy (AUROC 0.997, 95% CI 0.993–1.000; sensitivity 100%, specificity 99%), followed by LCD (AUROC 0.925).

Conclusions: BRVO induces widespread structural remodeling extending to asymptomatic fellow eyes, indicating systemic vascular involvement beyond the primary occlusion site. Temporal RNFL thickness and lamina cribrosa parameters represent promising OCT-based biomarkers for disease characterization. These findings support bilateral ocular evaluation and comprehensive systemic cardiovascular assessment in all BRVO patients.

Key Words: Branch retinal vein occlusion, optical coherence tomography, retinal nerve fiber layer, choroidal thickness, lamina cribrosa, optic nerve head, diagnostic biomarkers

RS-19

ROLE OF TYG INDEX AND SERUM LIPID LEVELS AS METABOLIC PREDICTORS IN DIABETIC RETINOPATHY

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Abstract text

Background: Diabetic retinopathy (DR) is one of the leading microvascular complications of diabetes mellitus and remains a major cause of preventable vision loss worldwide. Its development is strongly influenced by metabolic dysregulation, particularly chronic hyperglycemia and associated alterations in lipid metabolism. Recent ophthalmologic and metabolic studies have highlighted the triglyceride–glucose (TyG) index as a reliable surrogate marker of insulin resistance, demonstrating stronger predictive capacity for microvascular complications than traditional glycemic parameters alone. Elevated TyG index values have been associated with retinal microvascular impairment, increased oxidative stress, and earlier onset of DR in diabetic populations. Similarly, serum lipid abnormalities—especially elevated triglycerides, LDL-cholesterol, and reduced HDL-cholesterol—have been implicated in the formation of hard exudates, macular edema, and progression of retinopathy severity. Despite these findings, the combined predictive role of the TyG index and detailed serum lipid profiles in assessing DR risk remains insufficiently characterized. Understanding these metabolic predictors may enhance early identification of high-risk individuals and contribute to more personalized ophthalmic care

Materıals And Methods: This retrospective cross-sectional study was conducted by reviewing the electronic medical records of patients with type 2 diabetes mellitus who were evaluated between 2018-2024. Demographic characteristics, diabetes duration, body mass index, blood pressure, and laboratory measurements—including fasting plasma glucose, triglycerides, total cholesterol, HDL, LDL, and HbA1c—were extracted from the records. All biochemical analyses had been performed using standard enzymatic methods, and the TyG index was calculated as ln[(fasting triglycerides (mg/dL) × fasting glucose (mg/dL))/2]. Ophthalmologic findings were obtained from documented best-corrected visual acuity, slit-lamp biomicroscopy, intraocular pressure measurements, and dilated fundus examinations performed by retina specialists. Diabetic retinopathy severity was graded according to the International Clinical Diabetic Retinopathy and Diabetic Macular Edema Disease Severity Scale. Patients with other retinal diseases, previous retinal surgery, inadequate fundus evaluation, or incomplete metabolic data were excluded. Statistical analyses were performed using SPSS software; normally distributed variables were expressed as mean ± standard deviation and compared using independent-samples t tests, while non-normally distributed variables were presented as median (interquartile range) and compared using Mann–Whitney U tests. A p-value <0.05 was considered statistically significant.

Results: A total of 70 patients with type 2 diabetes mellitus were evaluated, of whom 39 (55.7%) had diabetic retinopathy (DR). Patients with DR were significantly older than those without DR (63.31 ± 8.52 vs. 57.52 ± 10.98 years, p=0.015) and had higher HbA1c levels (9.15 ± 2.32 vs. 7.44 ± 1.75%, p=0.001). Fasting glucose was also

significantly higher in the DR group (p=0.017). In contrast, triglycerides, HDL, LDL, total cholesterol, and the TyG index showed no significant differences between groups (all p>0.05). Among patients with DR, comparison between NPDR and PDR subgroups revealed no significant differences in metabolic parameters or lipid levels (all p>0.05). Similarly, DR severity categories (mild, moderate, severe NPDR, and PDR) showed no significant differences in any biochemical variable in Kruskal–Wallis analysis. In the evaluation of macular edema, only HDL differed significantly, being higher in patients without edema (p=0.021), while all other parameters—including the TyG index—showed no significant associations. Correlation analysis demonstrated that the TyG index was strongly associated with triglycerides (ρ=0.752, p<0.001), glucose (ρ=0.708, p<0.001), and HbA1c (ρ=0.534, p<0.001), and negatively correlated with HDL (ρ=–0.375, p=0.019), but showed no relationship with DR presence or severity. Binary logistic regression analyses confirmed that the TyG index, triglycerides, LDL, and total cholesterol were not independent predictors of DR (all p>0.05), nor did the index predict PDR or macular edema. In the multivariable logistic regression model including age, HbA1c, glucose, total cholesterol, LDL, and the index, only age (OR=1.09, p=0.010) and HbA1c (OR=1.59, p=0.007) independently predicted DR, while all lipid parameters and the TyG index remained non-significant. Gender was not associated with DR presence or severity (p>0.4). Overall, these findings indicate that while the TyG index is strongly correlated with underlying metabolic dysregulation, it does not independently predict diabetic retinopathy or its severity in this study.

Conclusion: In this study, although the TyG index showed strong associations with metabolic markers such as triglycerides, fasting glucose, HbA1c, and HDL, it did not independently predict the presence, severity, or complications of diabetic retinopathy. Likewise, serum lipid parameters—including triglycerides, LDL, and total cholesterol—were not significant determinants of DR or its progression. Instead, age and long-term glycemic control, reflected by HbA1c, emerged as the only independent predictors of retinopathy risk. These findings suggest that while the TyG index effectively reflects underlying metabolic dysfunction, it may have limited value as a standalone ophthalmologic biomarker for DR detection or staging. Comprehensive metabolic assessment remains essential, but maintaining optimal glycemic control appears to be the most critical factor in reducing the risk of diabetic retinal complications.

RS-20

CHOROIDAL THICKNESS CHANGES IN DIABETIC RETINOPATHY USING SWEPT-SOURCE OCT

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Abstract text:

Introduction/Background: Diabetic retinopathy (DR) is associated with microvascular alterations that may affect choroidal structure. This study aimed to evaluate choroidal thickness (CT) in different stages of DR and healthy individuals using swept-source optical coherence tomography (SS-OCT) and to determine systemic factors influencing CT.

Methods: This prospective cross-sectional study included 100 diabetic patients classified according to Early Treatment Diabetic Retinopathy Study criteria: 25 without retinopathy, 25 non-proliferative DR (NPDR) without macular edema, 25 NPDR with macular edema, and 25 previously panretinal photocoagulated proliferative DR (PDR) patients. Twenty-five healthy subjects served as controls. All participants underwent best-corrected visual acuity assessment, refraction, intraocular pressure measurement, slit-lamp biomicroscopy, and dilated fundus examination. CT measurements were obtained using SS-OCT with the ETDRS grid. Mean CT was calculated from nine subfields, and central choroidal thickness (CCT) was defined as the average thickness within the central 1-mm area. Multivariate regression analysis was performed to evaluate associated factors.

Results: Mean CT was significantly lower in the PDR group compared with controls and NPDR groups ($p<0.05$). CCT was also significantly reduced in the proliferative group compared with all other groups ($p<0.001$). Multivariate analysis demonstrated that each one-year increase in age was associated with a 1.895 µm decrease in CT ($p<0.001$, 95% CI: −3.277 to −0.512), and each one-unit increase in HbA1c was associated with a 16.910 µm decrease in CT ($p<0.001$, 95% CI: −28.818 to −5.001) ($R^2=0.192$).

Conclusion: Choroidal thickness decreases significantly in proliferative diabetic retinopathy. Increasing age and higher HbA1c levels are independently associated with reduced CT. SS-OCT-derived CT measurements may serve as a structural indicator of disease severity in DR.

RS-21

Novel Assessment of Macular Health Using OAM-Coupled Polarized Light

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Abstract text:

Introduction/Background: Haidinger's brush (HB), an entoptic phenomenon induced by polarized light, serves as a diagnostic marker for macular health. However, its clinical utility is limited by a faint signal and a narrow visual field (~3.75°). Retinal diseases altering the Henle fibre layer (HFL) further inhibit HB perception. This study investigates a novel method using structured light (SL) (orbital angular momentum (OAM) coupled circularly polarized light) to overcome these limitations.

Methods: Using the Structured Light Observation Perception & Evaluation (SLOPE) device, we generated rotating entoptic patterns via SL, expanding the visual field to >10° and increasing contrast. We recruited healthy subjects and patients with early/intermediate AMD. Participants performed a 1-2 minute perception task to calculate the circularly oriented macular pigment optical density (coMPOD).

Results: SL provided high-contrast patterns detectable regardless of visual acuity. While visual acuity was comparable between groups, the coMPOD test showed significant differences in perception ability between healthy controls and patients with macular pathology. The test can be used to identify functional retinal changes associated with neurodegenerative diseases of the outer retina.

Conclusions: OAM-coupled polarized light offers a superior functional biomarker for macular screening. This rapid, non-invasive method effectively detects early macular degeneration where traditional visual acuity tests may fail, presenting a promising tool for clinical practice.

RS-22

COMPARISON OF OPTICAL COHERENCE TOMOGRAPHY AND OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY FINDINGS OF INTRAVITREAL BEVACIZUMAB AND DEXAMETHASONE IN PATIENTS WITH DIABETIC MACULAR EDEMA

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Abstract Text:

Introduction/Background: Diabetic macular edema (DME) is a major cause of vision loss in diabetic retinopathy. Although intravitreal anti-vascular endothelial growth factor agents and corticosteroid implants are widely used, their comparative effects on functional, structural, and microvascular retinal parameters assessed by optical coherence tomography (OCT) and OCT angiography (OCT-A) remain incompletely understood.

Methods: This retrospective study included 50 eyes with DME divided into two treatment groups. The bevacizumab group received four consecutive intravitreal bevacizumab injections, whereas the dexamethasone group received a dexamethasone implant following three consecutive intravitreal bevacizumab injections. OCT and OCT-A imaging were performed at baseline, 1 month, and 3 months. Central macular thickness (CMT), hyperreflective retinal spots (HRN, quantified using ImageJ), and serous retinal detachment were evaluated using OCT. OCT-A analysis included assessment of the foveal avascular zone (FAZ) area, foveal density (FD), and vascular density (VD) in both the superficial and deep capillary plexuses. Best-corrected visual acuity (BCVA) was analyzed in LogMAR units. Treatment-related changes were evaluated using difference-based parameters (Δ = 3rd month − baseline). Intergroup comparisons and Δ-based correlation analyses were performed, with statistical significance defined as $p<0.05$.

Results: Both treatment groups demonstrated significant reductions in CMT during follow-up, with a more pronounced decrease in the dexamethasone group. HRN counts decreased significantly in the bevacizumab group ($p=0.011$). FAZ area showed a significant reduction at the first month in the dexamethasone group ($p<0.05$), whereas no significant FAZ change was observed in the bevacizumab group. BCVA improved significantly in both groups; however, ΔBCVA improvement was significantly greater in the dexamethasone group compared to bevacizumab ($p=0.006$). Difference-based correlation analyses revealed no significant associations between ΔBCVA and changes in CMT, HRN, FAZ, FD, or VD in either group (all $p>0.05$).

Conclusion: Despite significant anatomical and functional improvements following treatment, the absence of significant structure–function correlations based on temporal differences suggests that visual recovery in DME may be influenced by multifactorial mechanisms beyond measurable OCT and OCT-A parameters. These findings highlight the importance of multimodal OCT and OCT-A evaluation in assessing treatment response in DME.

Key Words: Image J,OCT-A, DME

RS-23

HYPERTENSIVE RETINOPATHY AS A COMPLICATION OF PHEOCHROMOCYTOMA: CASE REPORT AND BRIEF LITERATURE REVIEW

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Abstract text

Introduction: Hypertensive retinopathy secondary to pheochromocytoma is rare but may be the first clue to a life-threatening endocrine cause of malignant hypertension. Early recognition is crucial because retinal changes can be reversible at initial stages, while delayed diagnosis may lead to irreversible visual loss.

Methods: We report a case of a 28-year-old woman who developed abrupt visual impairment following recurrent hypertensive crises with syncope and seizures. A comprehensive ophthalmic evaluation was performed, including best-corrected visual acuity, slit-lamp biomicroscopy, fundus imaging, automated perimetry (30-2), OCT and ocular ultrasound. Systemic history and imaging were reviewed.

Results: The patient had arterial hypertension since 2023 and progressed to stage 4 chronic kidney disease attributed to hypertensive nephropathy. A retroperitoneal mass (C48.0) was resected in May 2024 and subsequently confirmed as pheochromocytoma. In December 2024–January 2025, crises reached 200/100 mmHg with pulmonary edema and pneumonia. Ophthalmic findings were severe and bilateral: OD best-corrected VA 0.5, OS inconsistent light perception; pale optic discs OU; arterial obliteration; peripapillary neovascularization; retinal hemorrhages and gliosis (OD); marked vitreoretinal tractional bands and fibrosis with suspected macular ischemia (OS). B-scan showed attached retina OU with partial vitreous hemorrhage (OD) and coarse vitreoretinal bands (OS). Perimetry demonstrated profound visual field loss (MD −31.86 dB OD; −33.71 dB OS), consistent with secondary optic atrophy OU, worse OS.

Conclusions: This case highlights that in young patients with proliferative hypertensive retinopathy and optic neuropathy, secondary hypertension—especially pheochromocytoma—must be actively considered. Ophthalmologists can play a pivotal role in triggering systemic evaluation and timely intervention. Delayed recognition may result in irreversible ocular catastrophe alongside multi- organ damage.

Key Words: Pheochromocytoma, Malignant hypertension, Hypertensive retinopathy, Neovascularization, Optic atrophy, Young patient

RS-24

EVALUATION OF PERSISTENT AVASCULAR RETINA SEEN IN RETINOPATHY OF PREMATURITY USING OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY

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Abstract text

Introduction: The aim was to evaluate persistent avascular retina (PAR) following retinopathy of prematurity using optical coherence tomography angiography (OCTA).

Methods: Between September 2018 and September 2020, 74 eyes of 37 patients aged 4-8 years who were followed up and treated at the ROP clinic were included. Files were scanned to record gestational age, birth weight, ROP stage, and treatment history. Optical coherence tomography angiography images and wide-angle fundus photographs were obtained from patients aged 4-8 years. Wide-angle fundus images were examined using a green filter to determine the presence of persistent avascular retina (Figure 1). OCTA findings in eyes with and without persistent avascular retina were statistically compared.

Results: Of the 74 eyes included in the study, PAR was not detected in 35 (group1), while it was detected in 37 patients (group 2). Two eyes were excluded from the study due to poor image quality. From the OCTA data, total density/lower half density of the deep capillary plexus and parafoveal density were found to be statistically significant between the two groups (p=0.037, p=0.015, p=0.012, respectively). No statistically significant differences were found between the two groups in phase-external retinal blood flow, choriocapillaris blood flow, and non-flow (p=0.618, p=0.436, p=0.15, p=0.626, respectively).

Conclusions: Persistent avascular retina, which results from incomplete vascularization following spontaneous or anti-VEGF treatment of active ROP findings, is among the late-stage outcomes of retinopathy of prematurity. With the recent increase in anti-VEGF therapy, the diagnosis and follow-up of PAR have become important issues. In our study, while no significant difference was observed in the superficial capillary plexus in cases with PAR, a significant difference was detected in the blood flow of the deep plexus. We believe that the increase in blood flow velocity in the deep capillary area is due to the absence of blood flow in the avascular area.

SS: STRABISMUS SESSIONS ORAL PRESENTATIONS ABSTRACTS

SS-1 THAT WAS NOT THE ANATOMY I LEARNED IN STRABISMUS

Seyhan Bahar Ozkan

Private Practice, Aydin, Turkiye

Abstract Text:

Aim: During strabismus surgery, the surgeon may face with unexpected anatomical findings. The aim of this paper is to give an idea about those variations and how to adapt the surgical plan accordingly.

Methods: The anatomical variations may be considered in 4 groups as extraocular muscle (EOM) insertion site abnormalities, EOM pathway abnormalities, hypoplasia or aplasia of EOM, accessory EOM or bands.

Results: Unexpected anatomical findings are more common in craniofacial disorders, CCDD and unusual motility patterns. Multiple insertions and bellies are most commonly seen in inferior oblique muscle. Superior oblique (SO) muscle may present with larger spectrum of variabilities that may present as nasal or bifid insertion, insertion angle and curvature abnormalities, non scleral insertion, partial tendon laxity and even absence of the SO tendon. Repositioning with or without tendon tuck, partial tendon tuck, tendon elongation, SR recession instead of SO surgery are among the possible modifications of surgery. The decision making pearls are forced duction test (FDT) and the motility findings. In rectus muscles limbus-insertion distance variabilities are more common and in those cases the measurements should better be modified in reference to limbus.

In addition to the myopic strabismus and sagging eye syndrome, EOM pathway abnormalities may be observed in other types of strabismus where myopexy or pulley fixation may be considered.

Accessory EOM and bands may present as a surgical surprise especially in those with anterior locations. The typical surgical signs are any unexpected FDT result and a positive FDT after disinsertion. Scleral indentation suggests a thin tissue band whereas scleral folds suggest a posterior wide tissue band.

Conclusions: Strabismus surgeon needs to be aware of anatomical variations and their surgical signs even in routine cases. The surgical plan requires individual modification depending upon the observed anatomical variation for a better surgical outcome.

SS-3 EVALUATION OF SURGICAL OUTCOMES IN INTERMITTENT EXOTROPIA: INFLUENCE OF RİSK FACTORS AND SURGICAL TECHNIQUE

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Abstract Text:

Introduction: Intermittent exotropia (IXT) is a common form of childhood strabismus characterized by episodic loss of fusional control. This study aimed to evaluate long-term surgical outcomes in IXT, examine preoperative risk factors, and compare the effectiveness of different surgical techniques.

Materials and methods: This retrospective study included IXT patients who under went strabismus surgery between 2000 and 2025. Patients were treated with either unilateral recession-resection (RR, n=117) or bilateral lateral rectus recession (BLR, n=47). Motor success—defined as <10 prism diopters (PD) deviation at distance and near—was assessed at the 1st and 6th postoperative months. Binocular vision parameters (convergence, stereopsis, fusion) and oculomotor findings (oblique dysfunction, duction limitations) were also analyzed. Statistical methods included Chi-square, Fisher's exact, Friedman tests, Wilcoxon signed-rank tests, and logistic regression. Significance was set at $p< 0.05$.

Results: A total of 164 patients were included. Motor success was achieved in 87.7% at postoperative month 1 and 84.5% at month 6. At 6 months, success rates were similar between surgical techniques (RR: 85.6% vs. BLR: 82.2%, p = 0.612). Binocular sensory outcomes did not differ significantly between groups: convergence normalization (RR 75.0% vs. BLR 70.3%, p = 0.562), presence of stereopsis (RR 83.7% vs. BLR 80.0%, p = 0.594), and fusion (RR 95.3% vs. BLR 93.3%, p = 0.720). Over all binocular function improved significantly over time. Convergence increased from 48.1% preoperatively to 73.8% at month 6 (p<0.001); stereopsis increased from 76.1% to 82.6% (p = 0.040), with fine stereopsis reaching 50.3%; and fusion improved from 89.2% to 94.6% (p = 0.017). In the multivariate analyses, two separate logistic regression models were constructed to evaluate preoperative and early postoperative predictors of surgical success. In the preoperativemodel, distance deviation in dependently predicted early success (OR = 0.85, p = 0.006), while near deviation predicted success at 6 months (OR = 0.93, p = 0.042). In the postoperative Day 1 model, distance deviation was identified as the strongest independent predictor of late success (OR = 0.84, p = 0.007), whereas Day 1 stereopsis acted as an independent protective factor (OR = 0.81, p = 0.033), with higher early stereopsis levels associated with greater likelihood of long-term alignment stability.

Conclusion: Unilateral RR and BLR techniques in IXT surgery resulted in similar motor success at 6-month follow-up. No significant differences were found in motor alignment or binocular function. Preoperative deviation angle was identified as the strongest predictor of outcome. Additionally, postoperative Day 1 distance deviation and early stereopsis provided valuable prognostic information, helping to predict long-term alignment stability. These results support the use of either technique and emphasize the importance of a multifactorial, individualized approach in surgical planning.

Key Words: Binocular visual function, Intermittent exotropia, Ocular alignment, Strabismus surgery, Surgical outcomes.

SS-4

CLINICAL CHARACTERISTICS AND OUTCOMES OF ACUTE-ONSET ESOTROPIA: A RETROSPECTIVE ANALYSIS

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Abstract text

Introduction: To characterize the clinical features, etiologic distribution, and motor and sensory outcomes of acute-onset esotropia (AOE), and to identify prognostic factors associated with treatment outcomes.

Methods: This retrospective cohort study included patients diagnosed with AOE who were followed for at least one year. Demographic data, etiologic classification, refractive status, neurologic findings, and history of prolonged near work were recorded. Motor alignment, diplopia, fusion, and stereopsis were evaluated at baseline and follow-up. Treatments included surgery, botulinum toxin injection, and conservative management.

Results: The cohort was predominantly male (61.9%) with a median age of 8 years. Trauma-related onset was rare (9.5%). Franceschetti (42.9%) and Bielschowsky (23.8%) types were most frequent. Prolonged near work was reported in 38.1%, and neurologic pathology was identified in 19.0%. Median baseline deviation was 35 prism diopters (PD) at near and 30 PD at distance. Deviations improved significantly, with the greatest reduction occurring early after treatment, followed by stabilization ($p<0.001$). Larger baseline distance deviation predicted reduced early motor success (OR = 0.89 per PD increase). Diplopia decreased from 38.1% at baseline to 5% during follow-up ($p<0.001$). Normal fusion increased to 70% and stereopsis to 50% at one year ($p<0.001$, $p=0.002$ respectively). Preoperative stereopsis was a strong predictor of both early (OR 6.2, $p = 0.02$) and late sensory success (OR 7.4, $p = 0.01$). Surgical treatment was performed in 57.1%. Both botulinum toxin–treated patients achieved resolution of diplopia and restoration of fusion despite residual deviation. Treatment modality and neurologic comorbidity were not independent predictors of outcome.

Conclusion: Acute-onset esotropia commonly presents with diplopia, even in pediatric patients, and is frequently associated with prolonged near work. Careful neurologic evaluation is essential. Once neurologic causes are excluded, appropriate management generally results in favorable stabilization. Botulinum toxin may be considered as an early option in selected symptomatic cases.

Key Words: Acute-onset esotropia, Sensory outcomes

SS-5

Clinical Characteristics and Management of Patients with Congenital Superior Oblique Palsy: A Retrospective Study

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Abstract Text:

Background: To evaluate the clinical characteristics, surgical outcomes, and prognostic factors in patients with congenital superior oblique palsy (SOP) who underwent inferior oblique (IO) weakening procedures.

Methods: This retrospective study was conducted at the Strabismus Department of Ankara Training and Research Hospital. Patients diagnosed with congenital SOP who underwent inferior oblique weakening surgery between 2006 and 2023, and who had a minimum postoperative follow-up of 6 months, were included. Clinical parameters analyzed included vertical deviation (VD) in primary gaze at distance and near, abnormal head postüre (AHP), binocular sensory status, and type of surgical technique performed. Clinical improvement was categorized as complete, partial, or none, based on postoperative alignment and head posture correction: complete = ≤ 3 PD with no AHP; partial = 4–8 PD and/or mild AHP; none = ≥ 9 PD and/or persistent AHP requiring further surgery.

Results: Significant vertical deviation in primary gaze was observed preoperatively in 86.1% of patients. AHP was present in 80.6% preoperatively and significantly decreased to 19.4% by the sixth postoperative month ($p<0.001$). Median preoperative vertical deviation was 11 prism diopters at distance (IQR: 8–14; range: 6–20) and 10 prism diopters at near (IQR: 7–12; range: 5–18). At one month after surgery, deviations improved to 2 prism diopters at distance (IQR: 0–4) and 1 prism diopter at near (IQR: 0–2), with no significant change between the first and sixth postoperative months ($p>0.05$), indicating early and stable motor success. Complete improvement was observed in 27.8%, partial improvement in 55.6%, and no improvement in 16.7%. A higher preoperative vertical deviation was significantly associated with poorer improvement outcomes ($p = 0.0016$), regardless of surgical technique. No statistically significant differences were found between surgical approaches in terms of motor alignment, binocular vision, or overall improvement classification (all $p>0.05$). Additional strabismus surgery was required in 30.6% of patients. Anti-elevation syndrome was observed in 5.6% following anterior transposition with J-deformity.

Conclusion: Inferior oblique weakening surgery provides early and sustained correction of VD and AHP in patients with congenital SOP. The preoperative angle of VD was the most significant prognostic factor. Approximately one-third of patients may require additional surgical intervention.

Key Words: Congenital superior oblique palsy, strabismus surgery, surgical outcomes

SS-6

CLINICAL CHARACTERISTICS AND LONG TERM OUTCOMES OF BROWN SYNDROME

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Abstract Text:

Purpose: To evaluate the long-term clinical follow-up and treatment outcomes of patients with Brown syndrome.

Methods: This retrospective study included 26 patients with Brown syndrome who were followed regularly for at least 12 months. Motor outcomes, including elevation restriction, vertical deviation, and abnormal head posture, were evaluated over time. Sensory outcomes were assessed using fusion and stereopsis testing. Motor and sensory success rates were analyzed at early and late follow-up visits.

Results: Of the 26 patients, 9 underwent surgical treatment—primarily those with severe elevation restriction and clinically significant vertical deviation—while 17 were managed non-surgically. Overall motor success was achieved in 92.3% of patients and was established early, remaining stable throughout follow-up. Abnormal head posture, initially present in 28% of patients, resolved completely at 12 months ($p < 0.001$). In the surgical group ($n = 9$), severe elevation restriction (grade 3–4) decreased from 100% at baseline to 22% at 12 months ($p = 0.003$). Vertical deviation was reduced from 66.7% to 11.1% ($p = 0.009$). Sensory success was observed in 50.0% of patients in the early period and 53.8% at final follow-up, with no significant change over time. Final sensory outcome, defined as fusion combined with stereopsis, was associated with the presence of baseline stereopsis on Titmus testing ($p = 0.012$), lower baseline spherical equivalent ($p = 0.002$), and older age at presentation ($p = 0.036$). In contrast, treatment modality was not associated with final sensory outcomes.

Conclusions: Surgical management provides effective motor improvement in appropriately selected patients with Brown syndrome, particularly in reducing vertical deviation and elevation restriction. These improvements occur early and remain stable during follow-up. Final sensory outcomes appear to be more closely related to baseline sensory findings and were not associated with treatment modality.

Key Words: Brown syndrome, strabismus, surgical treatment, motor outcomes, sensory outcomes, stereopsis, vertical deviation, elevation restriction

SS-8

SURGICAL SUCCESS AND ASSOCIATED FACTORS IN HORIZONTAL STRABISMUS CASES UNDERGOING SINGLE-MUSCLE RECESSION SURGERY

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Abstract Text:

Introduction/Background: This study aimed to evaluate surgical success, orthophoria rate, changes in alphabet patterns, and associated clinical factors in patients who underwent single-muscle recession surgery for small-angle horizontal strabismus.

Methods: Eighty-three patients who underwent unilateral rectus muscle recession between 2015 and 2024 and were followed for at least 3 months were included. Demographic data, strabismus type, refraction, visual acuity, follow-up duration, alphabet pattern, Duane syndrome presence, and surgical success were evaluated. Surgical success was defined as postoperative orthophoria.

Results: Of the patients, 60.2% were female and 39.7% were male. The median age at surgery was 8.5 years, and strabismus onset was 3.0 years. Strabismus type at distance was 61.5% XT and 38.5% ET; at near, it was 41.0% XF, 35.9% ET, 21.8% XT, and 1.3% EF. The median preoperative deviation was 20 PD at distance and 18 PD at near. The median spherical equivalent was +0.44 D (right eye) and +0.25 D (left eye), with a median visual acuity of 1.0 bilaterally. Median preoperative and postoperative follow-up periods were 20 and 14 months, respectively. The postoperative orthophoria rate was 85.5%, and the reoperation rate was 7.2%. A preoperative alphabet pattern (n=7) persisted postoperatively in only one patient following a transposition procedure. Seven patients had type 1 Duane syndrome. In unsuccessful cases, the median preoperative distance deviation was 20 PD (IQR: 5.25). Success rates did not differ significantly between XT and ET cases (p>0.05). No significant association was found between surgical success and preoperative distance deviation (p=0.895) or age at surgery (p=0.362). Logistic regression identified no significant predictors of success (all p>0.05).

Conclusions: Single-muscle recession surgery for small-angle horizontal strabismus yields high success rates, low reoperation requirements, and minimal alphabet pattern occurrence. This approach provides effective and reliable outcomes.

SS-9

OF PREMATURITY ON MOTILITY AND VISUAL ACUITY IN THE FIRST YEAR AND LATER

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Abstract Text:

Background: To evaluate the ocular findings of premature babies aged 1 year and older, in relation to their month of birth and the treatments they received.

Methods: This study was conducted in the eye clinic of a maternity hospital. Data were collected from the medical archives of the attending ophthalmologists (OK, GC). The files of the patients' who had previously undergone retinopathy of prematurity (ROP) examinations and treatments were evaluated retrospectively with respect to refraction status, visual acuity and motility. A total of 128 patients were included in this study. All cases had been followed up very closely from birth, and all treatments were performed at the same center. The patients were evaluated according to the treatments they received. This group included only 19 cases with gestational ages between 24-26 weeks. The patients evaluated under 3 groups. Group 1 consisted of patients with stage 2-3 plus disease in zone 1 and posterior zone 2 who received Intravitreal bevacizumab (IVB) treatment (n=41), Group 2 included patients with stage 2-3 plus disease in zone 2, anterior zone 2 and zone 3 who received only laser photocoagulation (LPC) treatment (n=39) and Group 3 consisted of patients with spontaneously regressed ROP (n=48).

Results: Mean age of the patients at the time of the study was 8.68±2.48 y. (9-12) and 66 of them were male. Their mean follow up was 79.56±22.15 m. There were 15 esotropia (11.71%) and 9 exotropia (%7.03) and only 10 cases had (7.81%) anisometropia in this group.

Conclusion: With appropriate treatment, premature babies may exhibit ocular findings comparable to those of full-term infants.

SS: STRABISMUS SESSIONS ORAL PRESENTATIONS ABSTRACTS

SS-10

DUANE RETRACTION SYNDROME; A CASE PRESENTATION

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Private Practice, Istanbul, Turkiye

Abstract Text:

Introduction: Duane Retraction Syndrome (DRS); maybe as a more appropriate term "Stilling-Türk-Duane Retraction Syndrome" is one of the special forms of strabismus consisted of three types. The currently favored theory about the etiology, in most instances, is an innervational disturbance of brain stem origin; various structural anomalies have also been reported as contributing factors.

Case report: An 8 year old boy's family applied to the office with a complaint of upward deviation of the child's left eye when he looks to the right since his early childhood. He was diagnosed as left DRS type I. The left eye was operated. Intraoperatively, some structural abnormalities were observed: Medial rectus (MR) and lateral rectus (LR) muscles' insertions were 1.5 mm closer to the limbus than normal. The upper edge point of LR's insertion was 2 mm closer to the limbus than the lower edge point which was thought to be as an unmentioned anomaly in DRS. The MR was recessed 4 mm, the LR was recessed 5 mm and a Y split procedure was performed. Care was taken to correct the asymetry of edge points' distances from the limbus and to make the insertional lines parallel to the limbus. He was followed up for three months and observed as having satisfactory recovery.

Conclusion: Among the various structural anomalies seen in DRS, insertional ones should also be kept in mind as additional factors on increasing the vertical deviation of the eye.

Key Words: Duane Retraction Syndrome, LR Y-splitting

SS-11 SURGICAL OUTCOMES OF PARTIALLY ACCOMMODATIVE ESOTROPIA

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Abstract Text:

Partially accommodative esotropia (PAET) is composed of accommodative and non-accomodative components. Surgery is usually considered if the remnant deviation is greater than 10 prism diopters (PD) at distance or near with full correction of hypermetropia or if fusion cannot be achieved with hypermetropic correction.

Purpose: We aimed to analyze clinical characteristics and surgical results in children with partially accommodative esotropia

Methods: Medical records of 68 children with PAET who underwent strabismus surgery were retrospectively reviewed in the pediatric inpatient department of the Kazakh Eye Research Institute, Astana, from 2023 to 2025. Children with PAET who underwent unilateral or bilateral medial rectus surgery were included in this study. Age, cycloplegic refraction, best-corrected visual acuity (BCVA), angle of esotropia, and the accommodative convergence/accommodation (AC/A) ratio were analyzed.

Results: Sixty-eight children (28 boys [41%] and 40 girls [59%]), aged 3 to 16 years, underwent unilateral or bilateral medial rectus surgery. All patients underwent a comprehensive ophthalmological examination. All patients were prescribed either full hypermetropic correction or prism glasses to fully correct cycloplegic hypermetropia for at least 1 year. The mean esotropia onset age was 1.98 years. In 37 (54%) children, esotropia manifested before the age of 2 years. The mean age at first spectacle wear was 2.82 years, and it ranged from 2 to 5 years in 44 (65%) patients. The mean age at the time of surgery was 7 years (range: from 2 to 16 years). The mean cycloplegic refraction (SE) was 4.43 ± 1.8 D (4.39 D in the right eye and 4.47 D in the left eye), which characterizes the condition as partially refractive accommodative esotropia. Anisometropia more than 1 D was present in 19 (28%) patients. Amblyopia was detected in 32 (47%) patients and was mostly mild. 49 patients had a normal AC/A ratio whereas 19 had a high ratio preoperatively. The mean preoperative residual esodeviation at distance was 34±17.4 PD and 27±17.2 PD in patients with normal and high AC/A ratios. The mean preoperative residual esodeviation at near was 36±17.9 PD and 54±29.9 PD in patients with normal and high AC/A ratios. The following surgical procedures were performed: bilateral MR recession (MRRec) in 50 (73.53%), bilateral MRrec with LR plication in 5 (7.35%), unilateral MRrec in 2 (2.94%), unilateral MRrec with LR plication in 2 (2.94%), bilateral MR resection-recession in 4 (5.88%), bilateral MRrec with Faden suture in 4 (5.88%), bilateral MR Faden suture alone in 1 (1.48%) cases. A successful surgical outcome was defined as a residual esodeviation of ≤5 PD. The success rate was 67.65% at early postoperatively. 46 patients (67,65%) had surgical success. The mean postoperative residual esodeviation decreased to 5±7.5 and 4±8.6 at distance, and to 6±8.6 and 8±13.6 at near in patients with normal and high AC/A ratios, respectively. Preoperative residual distance esodeviation was ≥40 PD in 24 (35.29%) children. Postoperatively, it decreased to ≤5 PD in 13 children,

5–10 PD in 3 children, and >10 PD in 8 children. Among the 44 cooperative children, sensory fusion was observed in 22 (50%) cases at distance and in 20 (46%) at near in the postoperative period.

Conclusions: Surgical treatment is effective for residual esodeviation in children with PAET and facilitates the restoration of sensory fusion. Amblyopia was present in 32 (47%) children, with 37% having mild, 8% moderate, and 2% severe forms. These findings highlight the importance of comprehensive management, including occlusion therapy and full cycloplegic correction where indicated. A limitation of this study is that it includes only the results from the early postoperative period and has a retrospective design.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-1

SURGICAL MANAGEMENT OF DIABETIC TRACTIONAL RETINAL DETACHMENT: TIMING, TECHNIQUES, AND TAMPONADE SELECTION

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Abstract Text:

Purpose: To summarize current surgical approaches in tractional retinal detachment (TRD) secondary to proliferative diabetic retinopathy, with particular emphasis on urgency-based surgical timing, preoperative anti-VEGF planning, contemporary small-gauge vitrectomy techniques, and tailored tamponade selection in complex cases, including combined tractional and rhegmatogenous retinal detachment (TRD + RRD).

Methods: This review outlines key surgical principles derived from current vitreoretinal practice and clinical experience. Major domains include: determination of surgical timing in macula-threatening TRD and combined TRD + RRD; preoperative intravitreal anti-VEGF administration and its timing-related risks; small-gauge pars plana vitrectomy techniques; controlled posterior hyaloid separation; fibrovascular membrane dissection using segmentation and delamination methods; bimanual dissection when required; adjunctive use of perfluorocarbon liquids for retinal stabilization; completion of inadequate panretinal photocoagulation intraoperatively; and individualized intraocular tamponade selection (gas versus silicone oil), particularly in eyes at high risk for proliferative vitreoretinopathy

Results: Timely surgical intervention is critical for optimizing anatomical and functional outcomes, especially in macula-threatening or combined TRD + RRD cases. Preoperative anti-VEGF therapy administered shortly before surgery promotes regression of active neovascularization and reduces intraoperative bleeding, thereby facilitating safer and more controlled membrane dissection. However, inappropriate timing may increase the risk of rapid fibrotic contraction (the "crunch phenomenon"). Successful surgery depends on meticulous traction release, precise membrane segmentation and delamination, and judicious use of adjuncts such as perfluorocarbon liquids. Intraoperative completion of panretinal photocoagulation reduces postoperative progression. In combined TRD + RRD, tamponade choice significantly influences outcomes; while gas tamponades may be adequate in selected cases, silicone oil is generally preferred in complex detachments, monocular patients, or eyes with high proliferative vitreoretinopathy risk

Conclusion: Optimal management of diabetic TRD requires time-sensitive surgical indications, carefully planned perioperative anti-VEGF therapy, meticulous small-gauge vitrectomy, and tailored tamponade decisions. Flexible surgical strategy, adapted to the severity and configuration of traction, is essential to maximize both anatomical reattachment and functional visual recovery based on our clinical experience.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-2

SURGICAL MANAGEMENT OF DIABETIC TRACTIONAL RETINAL DETACHMENT

Tural Galbinur

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Abstract Text:

Purpose: To summarize current advances in the surgical management of diabetic tractional retinal detachments (TRDs), with emphasis on imaging, vitrectomy techniques, and perioperative strategies that improve outcomes.

Methods: A narrative review of recent literature on diagnostic imaging, surgical innovations, and operative approaches in diabetic TRD repair, focusing on preoperative planning, intraoperative techniques, and postoperative care.

Results: Tractional retinal detachment is an advanced stage of diabetic retinopathy caused by fibrovascular proliferation leading to vitreoretinal traction and retinal separation. Recent imaging techniques improve assessment of tractional forces and surgical planning. Small-gauge vitrectomy systems, enhanced visualization, and improved illumination have increased surgical precision and success rates. Preoperative anti-VEGF therapy reduces intraoperative bleeding and facilitates membrane dissection. Key surgical factors include careful preoperative assessment, bimanual dissection, appropriate tamponade selection, and individualized management of complications.

Conclusion: Management of diabetic TRDs has improved significantly with advances in imaging and vitreoretinal surgery. Optimal outcomes depend on timely intervention, meticulous surgical planning, modern instrumentation, and a multidisciplinary approach.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-3

PREOPERATIVE CO-APPLICATION OF BEVACIZUMAB AND TISSUE PLASMINOGEN ACTIVATOR IN VITRECTOMY FOR PROLIFERATIVE DIABETIC RETINOPATHY

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Abstract Text:

Purpose: To investigate the clinical benefits of co-application of bevacizumab and tissue plasminogen activator(t-PA) as adjuncts in the surgical treatment of proliferative diabetic retinopathy (PDR).

Design: Prospective, randomized, comparative clinical study

Methods:

Setting: Single Tertiary Center

Twenty-two eyes of 22 patients who had vitrectomy and preoperative intravitreal bevacizumab and t-PA injection (group 1) were compared to 22 eyes of 19 patients (group 2) who had vitrectomy and preoperative intravitreal only-bevacizumab injection for the treatment of complications of PDR. The primary outcome measures were duration of surgery and the number of intraoperative iatrogenic retinal breaks. Secondary outcome measures were the change in best-corrected visual acuity (BCVA) and postoperative complications.

Results: The mean surgery time in group 1 (52.95±5.90 minutes) was significantly shorter than to be in group 2(79.86±12.38 minutes) ($p<0.001$). The mean number of iatrogenic retinal breaks was 0.50±0.59(0 to 2) in group 1, and 2.00±0.81(0 to 3) in group 2 ($p<0.001$). Visual acuity improved significantly in both groups ($p<0.001$). While postoperative endo-tamponading agents were air in 8 eyes, SF6 gas in 7 eyes, and silicone oil in 7 eyes in group 1, they were air in 2 eyes, SF6 gas in 2 eyes and silicone oil in 18 eyes in group 2. Epiretinal membrane in 2 eyes, macular hole in 1 eye developed in group 2. One eye in each group developed retinal detachment.

Conclusion: Preoperative co-application of bevacizumab with t-PA as adjuncts in the surgical treatment of PDR, shortens the surgery time and lessens the number of intraoperative iatrogenic retinal breaks.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-4

TRAUMATIC EPIRETINAL MEMBRANE (ERM) RELEASE; A REVIEW SPONTANEOUS ERM RELEASE BASED ON A RARE CASE

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Near East University, School of Medicine, Nicosia, Turkish Republic of Northern Cyprus

Abstract text

Introduction/Background: Epiretinal membrane (ERM) is an idiopathic fibrocellular membrane formed by the accumulation of fibroblasts and extracellular matrix at the vitreoretinal interface. It progressively disrupts foveal anatomy, leading to decreased vision and metamorphopsia. While the treatment is surgical, spontaneous separation can rarely occur. This study reviews this rare condition based on a case of spontaneous ERM separation following blunt trauma.

Methods: A 62-year-old male patient, previously diagnosed with ERM in his right eye, presented with a complaint of sudden vision loss in his right eye after being struck by his cat's paw. His visual acuity was 2/10, and fundus examination revealed that the ERM had detached in a rolled-up shape and accumulated in front of the fovea. OCT testing revealed that the ERM, which had rolled up, was attached to the retina at two points. Due to the possibility of complete ERM detachment, the patient was advised to follow up in one week.

Results: The patient returned three days later, reporting a sudden improvement in vision. Eye examination revealed an improvement in visual acuity to 9/10. Fundus examination showed that the ERM was completely detached and suspended in the vitreous humor of the inferior nasal quadrant. OCT showed that the macular anatomy had recovered, except for slight surface undulation.

Conclusions: Spontaneous detachment of the ERM is a rare clinical event, occurring in approximately 1% to 3% of cases, particularly in young patients. In most cases, spontaneous ERM release results from acute PVD. Other reported causes include panretinal laser photocoagulation and Nd:YAG laser capsulotomy. Our literature search did not reveal any cases of spontaneous ERM release following blunt trauma.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-5

COMPARATIVE EVALUATION OF VITREORETINAL SURGERY AND SCLERAL BUCKLING FOR INFERIOR RETINAL DETACHMENT WITH RETINAL TEARS

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Abstract text:

Background: Inferior quadrant rhegmatogenous retinal detachment (RRD) presents specific surgical challenges due to gravitational factors affecting retinal break closure. The optimal surgical approach for inferior retinal tears remains controversial, and both scleral buckling and pars plana vitrectomy (PPV) are commonly used.

Methods: This retrospective study included 138 eyes that underwent surgery for inferior RRD caused by inferior nasal or inferior temporal retinal tears. Patients were grouped according to the surgical technique: scleral buckling or PPV. Preoperative clinical characteristics, macular status, chronicity, number and location of retinal tears, preoperative and postoperative best- corrected visual acuity (BCVA) were recorded. BCVA values were converted to logMAR units for analysis. The primary outcome measure was anatomical success after a single surgical procedure.

Results: Scleral buckling was performed in 112 eyes (81.2%) and PPV in 26 eyes (18.8%). Single-surgery anatomical success was achieved in 120 eyes (87.0%). There was no statistically significant difference in anatomical success between the scleral buckling and vitrectomy groups (86.6% vs 88.5%, p=1.00). Both surgical techniques resulted in significant postoperative improvement in BCVA(p<0.001). Final BCVA did not differ significantly between the two groups(p=0.862). Macula-on status was associated with better postoperative visual outcomes(p<0.001), while a higher number of preoperative retinal tears was associated with lower single-surgery success(p=0.040). In the PPV group, single-surgery anatomical success did not differ significantly between silicone oil (90.5%) and C3F8(80.0%) tamponade(p=0.488). No significant difference was observed between sponge and tire regarding anatomical and visual outcomes in patients undergoing scleral buckling(p>0.05). Follow-up duration was recorded in months, and no statistically significant difference was observed between the surgical groups. The mean follow-up duration was 47.5±61.6 months with a median follow-up of 24 months.

Conclusion: In inferior RRD with retinal tears, scleral buckling and PPV provide comparable anatomical and functional outcomes. Surgical success is influenced primarily by macular status and the number of retinal tears rather than the surgical technique itself.

Key Words: Inferior retinal detachment, Rhegmatogenous retinal detachment, Scleral buckling, Pars plana vitrectomy, Surgical outcomes

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-6

SURGICAL TREATMENT OF RETINAL DETACHMENT COMPLICATED BY PVR

Dilara B. Babaeva, Rinat R. Fayzrakhmanov, Alexandr A. Daloglanyan

Abstract text

Introduction: Proliferative vitreoretinopathy (PVR) is the main cause of surgical failure in rhegmatogenous retinal detachment (RRD). Management of advanced PVR (stage C and higher) lacks a universal protocol and demands a personalized surgical approach based on proliferation patterns.

Methods: We present a series of three complex RRD cases with severe PVR. Case 1: A 62-year-old male with traumatic total RRD (PVR C2-C4), organized hemophthalmos, and lens subluxation. Surgery: vitrectomy, phacoemulsification with IOL, gas tamponade (C3F8). Case 2: A 20-year- old female with long-standing total RRD and anterior traction. Surgery: vitrectomy, circular retinotomy, silicone oil tamponade. Case 3: A 62-year-old female with total RRD (PVR C2), choroidal detachment, and ocular hypotony. Surgery: vitrectomy, phacoemulsification with IOL, temporary perfluorocarbon liquid tamponade, endolaser, silicone oil tamponade.

Results: Anatomical success (complete retinal reattachment) was achieved in all cases. Postoperative best-corrected visual acuity improved in each patient. The surgical strategies effectively addressed diverse challenges: trauma-induced PVR with lens pathology (Case 1), anterior proliferation requiring retinotomy (Case 2), and combined RRD with choroidal detachment and hypotony (Case 3). No major intraoperative complications were noted.

Conclusions: This case series highlights that successful outcomes in complex RRD with PVR require a flexible, multi-technique approach. Critical to success are precise preoperative planning, intraoperative assessment of retinal mobility, and the strategic use of adjuncts such as retinotomy, perfluorocarbon liquids, and various long-term tamponade agents. Proficiency in a broad spectrum of vitreoretinal techniques allows for customization of treatment, leading to high anatomical success and functional rehabilitation.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-7

IMPACT OF PREOPERATIVE OCT FINDINGS ON VISUAL ACUITY IN LAMELLAR MACULAR HOLE PATIENTS TREATED WITH PARS PLANA VITRECTOMY

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Bursa Yüksek İhtisas Traning And Reaserch Hospital, Bursa, Turkiye

Abstract Text:

Purpose: This study aims to evaluate the preoperative optical coherence tomography (OCT) findings and the impact on final visual acuity (VA) in patients who underwent pars plana vitrectomy (PPV) for lamellar macular hole (LMH).

Materials and Methods: This study involves a retrospective analysis of OCT findings from 18 patients (19 eyes) who underwent PPV+ERM/ILM peeling+air and face-down position for LMH and were followed at our clinic between January 2022 and December 2024. Complete ophthalmological examinations and OCT findings of all cases were recorded. The presence of pre-op cysts, pre-op lamellar hole-associated epiretinal proliferation (LHEP), post-op foveal contour regularity, and pre-op and post-op choroidal thickness were evaluated on OCT.

Results: The mean age of the patients was 74.89 ± 6.42 years, with 11 males (57.9%) and 8 females (42.1%). The mean post-op follow period was 15.11±6.69 months. LMH was present in the right eye of 12 patients (63.2%) and the left eye of 7 patients (36.8%). Fifteen (78.9%) patients were phakic, and 4 patients were pseudophakic. OCT findings revealed LHEP in 7 patients (36.8%), and cysts were observed in 12 patients (63.2%). The preoperative VA (in Snellen) was 0.19±0.15, while the postoperative VA was 0.41±0.23 (p=0.003). Normal postoperative foveal contour was observed in 9 (47.4%) patients. The preoperative presence of LHEP (p=0.18) and foveal cyst (p=0.16), as well as postoperative foveal contour formation (p=0.28), do not have a significant impact on the final visual acuity

Conclusion: This study demonstrates that while PPV for LMH leads to a significant improvement in visual acuity, the preoperative presence of LHEP and foveal cysts, as well as postoperative foveal contour formation, do not significantly affect the final visual outcome.

Key Words: Lamellar Macular Hole, Pars Plana Vitrectomy, Visual Acuity, Optical Coherence Tomography.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-8

CHANGES FOLLOWING SILICONE OIL TAMPONADE IN PSEUDOPHAKIC RETINAL DETACHMENT SURGERY

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Abstract Text:

Background: Silicone oil tamponade is frequently preferred in complex rhegmatogenous retinal detachment surgery. Postoperative macular changes observed on OCT may influence visual recovery. This study aimed to investigate macular anatomical and structural changes in pseudophakic patients undergoing PPV with silicone oil tamponade.

Methods: Thirty pseudophakic eyes of 30 patients who underwent 23-gauge PPV with silicone oil tamponade were retrospectively analyzed. Silicone oil was removed after a minimum of 6 months. BCVA and OCT-based macular findings were evaluated during silicone oil tamponade and at 1 month after silicone oil removal.

Results: Mean patient age was 60.3 years, and half of the cohort was female. Visual acuity improved significantly by the first postoperative month. CME was detected in 8.3% of eyes during silicone oil tamponade and increased to 50% after silicone oil removal. In contrast, EZ/OLM integrity improved following oil removal, with disruption rates decreasing from 33.3% to 8.3%.

Conclusion: Silicone oil tamponade and its removal result in dynamic macular changes. While CME may be more frequently observed after oil removal, restoration of outer retinal layers may contribute to functional recovery.

VS-9

EVALUATION OF METAMORPHOPSIA AFTER PARS PLANA VITRECTOMY FOR MACULA-OFF RHEGMATOGENOUS RETINAL DETACHMENT USING THE M-CHART, AMSLER GRID, AND SD-OCT

Hatice Kubra Caglar[1], Sami Yilmaz[1], Busra Yorulmaz[2], Hafize Gokben Ulutas[1]

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[2]Inegol State Hospital, Bursa, Turkiye

Abstract Text:

Introduction: Functional visual outcomes remain variable despite high rates of anatomical success following rhegmatogenous retinal detachment surgery. This study aimed to evaluate the relationship between metamorphopsia and macular morphological changes following successful vitrectomy surgery for rhegmatogenous retinal detachment (RRD).

Methods: Twenty-six eyes with macula-off RRD that underwent single-surgery anatomical success after pars plana vitrectomy with 23-gauge instrumentation and C3F8 gas tamponade, and had at least 12 months of postoperative follow-up, were included. The presence of metamorphopsia was assessed using the M-Chart and the Amsler Grid, while macular morphology was analyzed with spectral-domain optical coherence tomography (SD-OCT). The continuity of the inner nuclear layer (INL), outer nuclear layer (ONL), external limiting membrane (ELM), and elipsoid zone (EZ) was examined.

Results: Metamorphopsia was detected in 16 eyes using the M-Chart and in 11 eyes using the Amsler Grid ($p = 0.047$). In eyes with metamorphopsia, the mean horizontal and vertical M-Chart scores were 0.42° ± 0.36° and 0.44° ± 0.42°, respectively ($p = 0.867$). No significant difference in postoperative best-corrected visual acuity (BCVA) was observed unless metamorphopsia was present ($p = 0.447$). The M-Chart metamorphopsia score showed a positive correlation with the width of EZ and ELM defects ($p = 0.009$ and 0.021, respectively). Additionally, eyes with ONL irregularity had significantly higher metamorphopsia scores ($p = 0.015$), while no correlation was found between INL irregularity and metamorphopsia score ($p = 0.077$).

Conclusion: Metamorphopsia may occur in eyes following retinal detachment surgery, regardless of visual acuity. The M-Chart was found to be superior to the Amsler Grid in detecting the presence of metamorphopsia and providing quantitative data. The findings suggest that alterations in the outer retinal layers (ONL, ELM, and EZ) play a more significant role than inner retinal changes in the development of metamorphopsia.

Key Words: M-Chart, Amsler Grid, Rhegmatogenous retinal detachment, Vitrectomy, Metamorphopsia

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-10

SURGICAL MANAGEMENT OF SUBRETINAL BANDS IN COMPLEX RETINAL DETACHMENT: A CASE SERIES

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Abstract text

Purpose: To evaluate surgical strategies and outcomes in patients with subretinal bands in complex retinal detachment.

Methods: Three patients with proliferative vitreoretinopathy-associated retinal detachment and subretinal bands were included. All cases underwent pars plana vitrectomy with removal of epiretinal proliferative membranes to relieve traction. In cases with persistent traction and retinal distortion, a localized retinotomy was created to access the subretinal space. Subretinal bands were carefully extracted using intraocular forceps. Additional procedures including scleral buckle, endolaser photocoagulation, and internal tamponade with silicone oil or perfluoropropane (C3F8) gas were applied according to intraoperative findings.

Results: Subretinal bands causing significant traction were successfully removed in all cases. Complete retinal reattachment was achieved without recurrence during follow-up. Visual acuity improved postoperatively in all patients. Surgical management was particularly challenging in long or branching bands, requiring controlled and stepwise extraction to minimize retinal trauma.

Conclusion: Subretinal bands act as a mechanical barrier to retinal reattachment and surgical removal should be considered when traction prevents successful reattachment. The key principle is complete release of traction while minimizing retinal trauma. Careful and controlled manipulation is essential to achieve favorable anatomical outcomes.

VS-11

MORPHOLOGICAL CHANGES IN PATIENTS UNDERGOING SURGERY DUE TO EPIRETINAL MEMBRANE

Melike Balikoglu Yilmaz[1], Sule Barman Kakil[2], Gulsum Yildirim Unal[1]

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[2] Hatay Mustafa Kemal University, Tayfur Ata Sokmen Faculty of Medicine, Hatay, Turkiye

Abstract text

Purpose: To evaluate longitudinal retinal and choroidal microvascular remodeling after epiretinal membrane (ERM) surgery using SS-OCTA and to compare postoperative trajectories between idiopathic and secondary ERM.

Methods: In this prospective longitudinal study, eyes undergoing ERM surgery were examined preoperatively and up to 9 months postoperatively. Quantitative OCTA parameters included FAZ and vessel density (VD) of the superficial and deep capillary plexuses (SCP and DCP) and choriocapillaris (CC) flow metrics. Choroidal structure was assessed using subfoveal choroidal thickness (SfCT) and choroidal vascularity index (CVI). Fellow eyes served as internal controls. Longitudinal changes were analyzed across follow-up visits and compared between idiopathic and secondary ERM.

Results: Postoperatively, the FAZ remained significantly smaller than in fellow eyes throughout follow-up but showed gradual enlargement over time, indicating delayed microvascular remodeling. This enlargement was more pronounced in idiopathic ERM, whereas secondary ERM demonstrated a more limited recovery pattern. VD in the SCP and CC showed transient postoperative alterations without a consistent longitudinal trend. In contrast, the DCP demonstrated a delayed and selective recovery, particularly in idiopathic ERM, suggesting layer-specific microvascular remodeling. SfCT gradually decreased, while CVI remained stable, indicating no substantial long-term alterations in overall choroidal vascular architecture.

Conclusion: ERM surgery is associated with sustained, time-dependent retinal microvascular remodeling up to 9 months postoperatively. FAZ dynamics—persistent reduction with gradual enlargement—serve as a sensitive indicator of postoperative adaptation, while the DCP demonstrates delayed and selective recovery, particularly in idiopathic ERM. In contrast, choroidal parameters remain largely stable, indicating preservation of overall choroidal vascular architecture.

Keywords: Epiretinal membrane; Pars plana vitrectomy; Swept-source optical coherence tomography angiography; Foveal avascular zone; Deep capillary plexus; Choroidal vascularity index

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-12

HOW ACCURATELY DO AI MODELS EXPLAIN EPIRETINAL MEMBRANE SURGERY? A COMPARATIVE EVALUATION OF CHATGPT-5.1, GEMINI 2.0, AND DEEPSEEK R1

Sule Barman Kakil[1], Melike Balikoglu Yilmaz[2]

[1] Hatay Mustafa Kemal University, Tayfur Ata Sökmen Faculty of Medicine, Hatay, Turkiye

[2]Izmir Katip Celebi University, Faculty of Medicine, Izmir, Turkiye

Abstract text

Introduction / Background: Epiretinal membrane (ERM) surgery requires nuanced patient counseling regarding symptom–structure mismatch, surgical timing, and postoperative visual recovery. Large language models (LLMs) are increasingly accessed by patients for medical information; however, their reliability in explaining ERM and its surgical management remains unclear, particularly in complex clinical contexts.

Methods: This cross-sectional comparative study evaluated AI-generated explanations related to ERM disease and surgery. Fifteen original ERM-specific questions were developed and categorized by difficulty level (basic, intermediate, advanced). Each question was independently submitted to three contemporary LLMs using a standardized prompt in separate chat sessions. Responses were anonymized and assessed by masked vitreoretinal specialists for correctness, error type, thematic accuracy, coherence, and overall quality. Readability was analyzed using structural metrics and the Flesch Reading Ease Score. Counseling suitability and potential safety risks were also evaluated. Statistical analyses included chi-square or Fisher's exact tests, ruskal–Wallis tests with post-hoc correction, and parametric or non-parametric comparisons as appropriate.

Results: A total of 45 AI-generated responses were analyzed. Significant inter-model differences were observed in accuracy, readability, error profiles, and counseling suitability. One model demonstrated higher overall accuracy and coherence, particularly for advanced surgical and postoperative questions ($p<0.01$). Another model produced more readable responses but showed higher rates of content omissions, while the third generated longer and more technically dense explanations with lower readability and increased clinically relevant errors. Serious errors and key counseling omissions were significantly more frequent in advanced surgical contexts, indicating increased risk with higher clinical complexity.

Conclusions: Large language models show variable performance in explaining ERM disease and surgery, with accuracy and counseling reliability declining as clinical complexity increases. While LLMs may assist patient education, their use in surgical counseling for ERM should remain supervised by clinicians to ensure safe and accurate patient communication.

Key words: Epiretinal membrane; Artificial intelligence; Large languagemodels; Patient education; Clinical accuracy

VS-13

THE ROLE OF AQUEOUS HUMOR MEDIATORS IN THE PATHOGENESIS OF DIABETIC RETINOPATHY: A COMPARATIVE ANALYSIS IN DIABETIC AND HEALTHY INDIVIDUALS

Melike Balikoglu Yilmaz[1], Leyla Argun[2], Arda Emre Ozturk[1], Yusuf Ziya Guven[1], Erdinc Aydin[1], Mehmet Ozgur Zengin[1], Raziye Yildiz[2]

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Abstract text

Purpose: To investigate aqueous humor adiponectin (APN) and vascular endothelial growth factor (VEGF) levels in patients with diabetes mellitus and to evaluate their association with diabetic retinopathy (DR) and retinal structural parameters.

Methods: This prospective, comparative study included 81 eyes of 81 participants: 55 diabetic patients (26 without DR, 29 with DR) and 26 non-diabetic controls. Aqueous humor samples were obtained during cataract surgery, and APN and VEGF levels were measured using enzyme-linked immunosorbent assay (ELISA). All subjects underwent optical coherence tomography (OCT) for macular thickness, ganglion cell-inner plexiform layer (GCIPL), and choroidal thickness measurements. Systemic parameters, including HbA1c, lipid profile, and inflammatory markers, were also analyzed.

Results: Aqueous humor APN and VEGF levels were higher in the DR group, with a marked increase in APN levels in proliferative DR; however, no statistically significant difference was observed between groups overall ($p>0.05$). A positive correlation was found between APN and VEGF levels. Choroidal thickness was significantly increased in diabetic patients compared to controls ($p<0.001$), while macular thickness did not differ significantly between groups. GCIPL thickness was significantly reduced in inner sectors in diabetic patients ($p<0.05$). Notably, APN levels showed significant correlations with inner retinal layers and systemic inflammatory markers, particularly in advanced DR.

Conclusions: Both APN and VEGF appear to be involved in the pathophysiology of DR. While VEGF supports its established role in angiogenesis, elevated APN levels—especially in proliferative stages—may reflect a compensatory anti-inflammatory response or disease severity marker. The association between APN and inner retinal thinning suggests a potential link with neurodegeneration. Further studies are warranted to clarify the role of adiponectin as a biomarker or therapeutic target in diabetic retinopathy.

Keywords: Diabetic retinopathy; Adiponectin; VEGF; Aqueous humor; Optical coherence tomography

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-14

27-GAUGE VITRECTOMY IN PEDIATRIC CASES

Gurkan Erdogan

Istanbul University, Istanbul Faculty of Medicine, Istanbul, Turkiye

Abstract Text:

Purpose: To highlight the advantages and clinical applicability of 27-gauge (27G) vitrectomy in pediatric vitreoretinal surgery.

Methods: Pediatric cases undergoing 27G vitrectomy for congenital cataract, retinopathy of prematurity (ROP), persistent fetal vasculature, and retinal detachment were evaluated.

Results: 27G vitrectomy provided effective surgical outcomes comparable to larger-gauge systems while offering distinct advantages in pediatric eyes. The smaller sclerotomy size ensured better wound sealing and reduced hypotony risk. Lens-sparing procedures were performed more safely and efficiently. In congenital cataract cases, minimal suturing was required, allowing faster visual rehabilitation without the need for additional anesthesia. The multifunctional design of 27G instruments improved intraoperative control and stability, particularly in complex ROP surgeries.

Conclusion: 27G vitrectomy is a minimally invasive and highly effective approach in pediatric vitreoretinal surgery, combining safety, efficiency, and improved postoperative recovery.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-15

SURGICAL APPROACH TO MASSIVE SUBMACULAR HEMORRHAGES

Eyyup Karahan

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Abstract Text:

Introduction/Background: Massive submacular hemorrhages can be treated with surgical and non-surgical methods, and this presentation aims to evaluate different surgical methods.

Methods: This presentation reviews treatment options for patients with submacular hemorrhages of varying severity. Specifically, we describe the treatment of large submacular hemorrhages that extend beyond the vascular arcade and persist for more than 2 weeks, with peripheral retinectomy and submacular hemorrhage and membrane cleansing

Results: In the majority of the patients in the presentation, postoperative functional and anatomical results improved positively compared to their preoperative conditions.

Conclusion: In very large submacular hemorrhages lasting longer than 2 weeks, aggressive surgical approaches can allow ambulatory vision to be achieved in most patients

VS-16

FROM POSTERIOR CAPSULE TO POSTERIOR SEGMENT: THE VITREORETINAL SURGEON'S ROLE IN MANAGING CATARACT COMPLICATIONS

Kyrykbayev D.R., Zhurgumbayeva G.K.

Kazakh Research Institute of Eye Diseases, Almaty, Kazakhstan

Abstract Text:

Background. Despite the high safety profile of modern phacoemulsification, posterior capsule rupture remains a critical intraoperative event that can rapidly shift management from the anterior to the posterior segment. Retained lens fragments, posterior intraocular lens dislocation, and infectious complications may initiate severe intraocular inflammation, elevated intraocular pressure, and cystoid macular edema. In such cases, timely vitreoretinal intervention plays a decisive role in preserving anatomical integrity and visual function by preventing irreversible retinal damage.

Methods. A retrospective analysis was performed on a consecutive series of patients referred for vitreoretinal management after complicated cataract surgery. The cohort included eyes with dense nuclear and cortical fragments displaced into the vitreous cavity, posteriorly dislocated intraocular lenses due to loss of capsular support, and early- or delayed-onset endophthalmitis. Surgical strategy was guided by clinical presentation and included pars plana vitrectomy, removal of lens material using heavy liquids for dense fragments, and intraocular lens repositioning or secondary fixation when indicated. Particular attention was given to intraoperative decision-making, including deferral of primary IOL implantation in cases of insufficient capsular stability.

Results. Early involvement of the vitreoretinal surgeon enabled prompt control of inflammation and reduced the risk of secondary glaucoma and macular edema. Maintaining aphakia in selected cases improved surgical access and allowed safer fragment mobilization while minimizing additional vitreoretinal traction. Early pars plana vitrectomy combined with intravitreal antibiotic therapy and diluted povidone-iodine infusion facilitated infection control, resulting in stable anatomical outcomes and meaningful visual improvement.

Conclusions. Posterior capsule rupture should be recognized not only as a complication of cataract surgery but also as a trigger for early vitreoretinal intervention. Timely referral, readiness to reconsider immediate IOL implantation, and decisive surgical management are key modifiable factors influencing outcomes.

Key Words: Vitreoretinal surgery, Pars plana vitrectomy, Retained lens fragments, Posterior capsule rupture, Intra*o*cular lens fixation.

VS: VITREORETINAL SESSIONS ORAL PRESENTATIONS ABSTRACTS

VS-17

CASE PRESENTATION: SURGICAL MANAGEMENT OF RECURRENT HEMOPHTHALMOS IN A PATIENT ON MAINTENANCE HEMODIALYSIS

Rahat Shailoobekova

Ophthalmology Laser Center (OLC), Bishkek, Kyrgyzstan

Abstract Text:

Introduction/Background: Hemophthalmos in patients with diabetes mellitus and end-stage renal disease (ESRD) on maintenance hemodialysis presents a significant surgical challenge due to severe vascular alterations. This study reports a complex clinical case of recurrent vitreous hemorrhage and retinal detachment in a patient with multi-organ pathology.

Methods: Patient X presented with a two-week history of progressive vision loss. Medical history included type 2 diabetes, arterial hypertension, and five years of hemodialysis. Initial intravitreal anti-VEGF therapy (bevacizumab) yielded only temporary improvement, with visual acuity subsequently declining to accurate light perception. The patient underwent comprehensive surgical intervention: 25G posterior closed vitrectomy combined with phacoemulsification and intraocular lens implantation.

Results: In the early postoperative period, the patient experienced somatic decompensation, including systemic hypertension and hyperglycemia. This triggered a partial recurrence of hemophthalmos and a flat retinal detachment. A secondary surgical intervention was performed, revealing a localized retinal tear along a vessel. The procedure included endolaser photocoagulation and repeat gas-air tamponade. Following the reoperation and stabilization of systemic parameters, retinal reattachment was achieved, and visual functions were partially restored.

Conclusions: Ocular complications in patients with combined diabetes and renal failure require a multidisciplinary approach. This case demonstrates that even a technically successful vitrectomy is highly susceptible to the patient's systemic stability. Stringent hemodynamic control and the early identification of occult retinal tears are critical for preventing recurrences and preserving vision in this high-risk population.

Keywords: hemophthalmos, diabetes mellitus, hemodialysis, vitrectomy, retinal detachment, endolaser photocoagulation.

AUTHOR INDEX

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NOTES

The underlined names are the presenters.

List of presentations made at the congress, but whose abstracts were not submitted.

1- CRS-5: A.E. Eshmambetov, Kyalbek A. Usonov, U.M. Talantbek (KG): Experience With Placing IOLS On The Anterior Capsule In Case Of Posterior Capsule Ruptures.

2- CS-14: Sait Egrilmez (TR): Dry Eye Disease: From Conventional Therapy to Novel Treatments.

3- FFA-4: Utku Limon (TR): How Come Such a Mess?

4- GOS-3: Malika M. Miralimova (UZ): Improving the system of ophthalmological care for preschool children in Tashkent.

5- OS-13: A.E. Eshmambetov, Kadyrov T.T (KG): Glass and plastic eye prosthetics in Kyrgyzstan.

6- RS-17: Suleyman Kaynak (TR): We are in despair about myopia and myopic maculopathy.

7- SS-2: Birsen Gokyigit (TR): Abnormal head positions: Reasons and solutions

8- SS-7: Aygerim Tuletova (KA): Clinical features and surgical treatment in monocular elevation deficit.