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ABSTRACT
BOOK



CR01.

NO IMPROVEMENT OF VISION FOLLOWING CATARACT SURGERY HIDES SOMETHING MORE SINISTER

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Short presentation: To present a case report of a patient who had probable paraneoplastic retinopathy in a patient with lung adenocarcinoma. A retrospective case study of a 77-year-old man who had cataract surgery in April 2024, with no visual improvement. He was subsequently referred to the retina service and reviewed in June 2025.

The optos images at the time showed confluent hyper-autofluorescence around the optic disc and maculae of both eyes with small foci of hypo-autofluorescence. The OCT scan in the area of the hyper-autofluorescence revealed relatively selective photoreceptor loss and patchy associated disturbances of the Bruchs/RPE.

The only past medical history is that of anxiety and depression and the only medication was Cromipramine. There is no history of recreational drug use and he reports he does not smoke. He consumes about 2 cans of Guinness a day.

He had subsequent further investigations one of which identified a lung mass confirmed to be adenocarcinoma. Examination of the fundus showed bilateral posterior pole mottling with abnormal hyper-autofluorescence and overlying specular hypo-autofluorescence. Selective loss of the outer retinal layers was seen in both eyes more so on the right. The features are consistent with probable bilateral paraneoplastic retinopathy.

Discussion: It is crucial to have a thorough investigation when you have retina findings with visual loss. The investigations could lead to a new early diagnosis, as with case with lung Adeno carcinoma, providing better treatment options and a better life expectancy for the patient.

CR02.

FIBRIN MEMBRANE FORMATION FOLLOWING ENOVA ADVANCED EDOF INTRAOCULAR LENS IMPLANTATION: CONSERVATIVE MANAGEMENT WITH INTENSIVE TOPICAL CORTICOSTEROID THERAPY

Dr Abdulfettah Suveys¹, Dr Fatma Sumer¹

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Short presentation: A 58-year-old woman underwent uncomplicated phacoemulsification with implantation of an Enova Advanced EDOF IOL. On postoperative day 3 she reported blurred vision (BCVA 0.2) and mild discomfort. Slit-lamp examination showed anterior chamber inflammation and a dense fibrin membrane partially covering the IOL optic. Intensive topical corticosteroids (prednisolone acetate 1%) and a cycloplegic agent were started and gradually tapered.

Discussion: Marked membrane regression occurred within 72 hours and complete resolution by week 2, with BCVA improving to 1.0. At 6 months, excellent distance, intermediate, and near acuity was maintained with preserved EDOF performance and high patient satisfaction. Prompt recognition and aggressive medical therapy may resolve early postoperative fibrin without compromising outcomes, supporting conservative management as first-line treatment.

CR03.

FIBRIN MEMBRANE FORMATION FOLLOWING ACRYSOF IQ PANOPTIX TRIFOCAL INTRAOCULAR LENS IMPLANTATION: SUCCESSFUL MANAGEMENT WITH TOPICAL CORTICOSTEROIDS

MD Ali Suha Uyanik¹, MD Fatma Sumer¹

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Short presentation: To present a case of fibrin membrane formation after uncomplicated phacoemulsification with AcrySof IQ PanOptix trifocal intraocular lens (IOL) implantation and its successful management using topical corticosteroids.

A 52-year-old female underwent uneventful phacoemulsification with PanOptix trifocal IOL implantation for age-related cataract. This diffractive hydrophobic acrylic IOL provides near, intermediate, and distance vision. On postoperative day 3, the patient complained of decreased vision and mild discomfort. Best-corrected visual acuity (BCVA) was 0.1. Slit-lamp examination revealed mild corneal edema, 2+ anterior chamber cells, and a dense fibrin membrane covering the pupillary area and partially obscuring the IOL optic. Intraocular pressure was within normal limits.

Intensive topical prednisolone acetate 1% was administered hourly for 48 hours and gradually tapered over four weeks. Cyclopentolate 1% was added to prevent posterior synechiae. Significant membrane regression was observed within 72 hours, with complete resolution by postoperative week 2. At one month, BCVA improved to 1.0 with a quiet anterior chamber and well-centered IOL.

Discussion: Fibrin membrane formation can occur after premium trifocal IOL implantation despite uncomplicated surgery. Prompt and aggressive topical corticosteroid therapy may achieve complete resolution without invasive intervention, preserving optimal visual outcomes



CR04.

ND:YAG LASER MEMBRANOTOMY FOR FIBRIN PUPILLARY-BLOCK GLAUCOMA FOLLOWING UNEVENTFUL PHACOEMULSIFICATION: WHEN MINUTES MATTER

Nurullah Coskuner¹, Yaren Guven¹, MD Fatma Sumer¹

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Short presentation: To report a case of acute fibrin pupillary-block glaucoma following uncomplicated phacoemulsification, successfully treated with Nd:YAG laser membranotomy as first-line intervention.

Tertiary referral center. A 58-year-old healthy female underwent uneventful phacoemulsification with posterior chamber IOL implantation. Postoperative day 1 was unremarkable with BCVA 20/25 and IOP 14 mmHg. She presented on postoperative day 5 with acute severe ocular pain and vision loss.

Examination revealed BCVA hand motions, IOP 52 mmHg, corneal edema, shallow anterior chamber with 360-degree iridocorneal touch, and dense fibrinous membrane completely occluding the pupil. Anterior segment OCT confirmed the pathognomonic third-space sign with posterior IOL displacement. After partial IOP reduction with systemic acetazolamide, Nd:YAG laser membranotomy was performed using 8 shots at 1.4 mJ, creating a central 2mm opening. Immediate anterior chamber deepening occurred with IOP decreasing to 11 mmHg within 30 minutes. Intensive topical corticosteroids and cycloplegics were initiated, followed by prophylactic peripheral iridotomy. At one week, BCVA recovered to 20/25 with complete fibrin resorption. At 6-month follow-up, BCVA was 20/20, IOP 14 mmHg, with no synechiae or glaucomatous damage.

Discussion: Fibrin pupillary-block glaucoma is a rare but sight-threatening complication occurring even after uncomplicated cataract surgery in patients without identifiable risk factors. The characteristic triad of acute IOP elevation, iris bombé, and pupillary membrane demands prompt recognition. Nd:YAG laser membranotomy provides rapid, non-invasive, effective treatment. Combined with anti-inflammatory therapy and prophylactic iridotomy, excellent outcomes are achievable. Early intervention prevents permanent angle damage.

CR05.

ACUTE MYOPIC SHIFT IN A PATIENT WITH SYSTEMIC LUPUS ERYTHEMATOSUS CRISIS

Mrs Frida Zora^{1,2}, Miss Nikoleta Mouskoidou¹, Mr Stavros Dimitriadis¹, Miss Eleni Ioanna Katsigianni¹, Mr Kosmas Pavlakis¹, Mrs Maria Staktopoulou¹

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Short presentation: To present a case of acute, transient and reversible myopic shift in a patient with known systemic lupus erythematosus (SLE), which occurred during hospitalization for an exacerbation of the disease.

A 30-year-old woman with a history of SLE who was hospitalized for a SLE crisis reported sudden bilateral, painless, blurred vision. Objective refraction was: OD: -9.00/-2.75×7°, OS: -7.75/-2.25×167°. On clinical examination, visual acuity was BCVA: 4/10 OD and 5/10 OS. There were no pathological findings in the anterior segment, lens, or fundus.

After the initiation of systemic corticosteroid therapy and immunosuppressive treatment for the SLE crisis, the objective refraction was OD: -5.50/-2.50×8°, OS -4.50/-2.25×168° and visual acuity was fully restored to BCVA10/10OU, within 24 hours

Discussion: Acute myopic shift is a rare but reversible manifestation of SLE, possibly due to transient ciliary body edema and anterior iridociliary diaphragm displacement. Early recognition is critical to avoid misdiagnosis or unnecessary change of prescription.

CR06.

MANAGEMENT OF PERFORATING OCULAR TRAUMA

Ktistakis N, Tsoutsoura S, Kalaitzakis P, Mavrikakis E

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Short presentation: A 37 year old male presented in eye casualty with reduced vision in his right eye after gunshot injury. Visual acuity was light perception. Slit lamp examination revealed a round perforating corneal wound with shallow anterior chamber, hyphema, loss of temporal iris and traumatic cataract. He underwent immediate surgical repair of the corneal trauma. Complete multimodal imaging was carried out in the immediate postoperative period including facial X ray, orbital CT scan and B scan ultrasound. One week later he underwent pars plana lensectomy and vitrectomy. Intraoperatively a step by step approach was applied achieving a superb functional and anatomic outcome.

Discussion: Surgical intervention in a planned manner is crucial in the management of perforating eye trauma resulting not only in preserving the globe but providing functional vision for the patient.



CR07.

VISION-THREATENING COINFECTION OF AKANTHAMOEBA AND PESUDOMONAS IN A 27-YEAR-OLD PATIENT

Mr Vasileios Panagoulis¹, Mr Nikolaos Ktistakis¹, MD Ioanna Gardeli¹

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Short presentation: A 27-year-old female hairdresser and regular contact lens user presented to the emergency department of our hospital with a two-day history of painful loss of visual acuity and photophobia. Slit-lamp examination revealed a central corneal ulcer with associated stromal melting, hypopyon, extensive epithelial defect, and stromal edema. A coinfection with Acanthamoeba and a Gram-negative bacterium was suspected. Following culture of the contact lenses and corneal scrapings, intensive antimicrobial therapy was initiated, consisting of topical amikacin hourly, topical vancomycin every two hours around the clock, intravenous ceftazidime 2 g three times daily, and oral tetracycline 100 mg twice daily. Cultures from both the contact lenses and corneal scrapings identified Pseudomonas aeruginosa sensitive to amikacin and ceftazidime. In vivo confocal biomicroscopy confirmed the presence of Acanthamoeba, and anti-amoebic therapy was subsequently initiated. Although stromal melting was controlled, persistence of the corneal ulcer persisted and corneal neovascularization developed after 2.5 months of follow-up at the Cornea Department, so we proceeded with therapeutic penetrating keratoplasty with subsequent bevacizumab injections.

Discussion: Therapeutic penetrating keratoplasty is an effective treatment option in cases of keratitis resistant to conservative management. Additionally, bevacizumab administration was a crucial modality in the management of corneal neovascularization.

CR08.

ASPERGILLUS FLAVUS KERATITIS AFTER PENETRATING KERATOPLASTY

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Short presentation: Fungal keratitis is a rare but severe complication following penetrating keratoplasty (PK). We report a case of Aspergillus flavus keratitis occurring three months after PK. A woman with Fuchs endothelial dystrophy developed pseudophakic bullous keratopathy and underwent uneventful PKP. Three months postoperatively, she presented with ocular pain and decreased vision. Slit-lamp examination revealed graft haze, a central epithelial defect, and stromal infiltrates rapidly extending into the recipient cornea. Corneal scrapings confirmed Aspergillus flavus. Despite intensive topical and systemic antifungal therapy, the infection progressed, leading to graft melting and corneal perforation, necessitating therapeutic PK, vitrectomy, and intraocular lens removal.

Discussion: Post-keratoplasty keratitis caused by Aspergillus flavus is associated with rapid progression and poor response to medical therapy. Risk factors such as epithelial defects and corticosteroid use may facilitate infection. Early recognition and prompt combined medical and surgical management are essential to prevent sight-threatening complications.³⁸

CR09.

TO PRESENT AN UNUSUAL CASE OF A YOUNG PATIENT WITH CORNEAL PERFORATION

Md,Msc Foteinos Styllas¹, Mr Panteleimon Ioannidis¹, Mrs Zoi Karagiannidou¹, Mrs Efstratia Amaxilati¹, Assistant Professor Dimitrios Mikropoulos¹

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Short presentation: An 11-year-old child was admitted to our hospital with a gradual vision loss in his right eye the last week. On initial clinical examination corneal perforation of the right eye with iris plugging was observed while no Seidel sign was detected, indicating the absence of active aqueous leakage. Both anterior and posterior blepharitis were noticed, moreover the best-corrected visual acuity was measured at 4/10cc in the right eye and 8/10cc in the left eye while the intraocular pressure was 12mmHg and 13mmHg accordingly.

Discussion: The corneal lesion was localized to the right eye and appeared consistent with mechanical stress rather than infectious etiology. A detailed history revealed frequent and vigorous eye rubbing over the recent period of time, which was reported to be persistent. Parental supervision and control regarding this behavior were described as controversial. The combination of chronic blepharitis and habitual eye rubbing likely contributed to corneal weakening, ultimately leading to perforation. The left eye showed no signs of corneal thinning but shared mixed blepharitis. This case highlights the potential severity of complications related to untreated blepharitis and uncontrolled eye rubbing in pediatric patients. Early recognition, appropriate management of lid disease, and parental education are essential to prevent vision-threatening outcomes in children.



CR10.

IMPROVEMENT OF VISUAL ACUITY FOLLOWING USE OF RIPASUDIL 0,4% IN 2 CASES WITH CORNEAL ENDOTHELIAL INSUFFICIENCY. CASE REPORTS.

MD, PhD, FEBO Dimitrios Miltsakakis¹

¹'OMMA', Athens, Greece

Short presentation: The 2 cases are presented because Ripasudil is a new antiglaucoma agent and is used for the 1st time in Greece to stimulate the reproduction of corneal endothelial cells for the reduction of corneal oedema. The 1st case is a male patient 62 y.o with a DSAEK graft (performed 15 years ago), with 2 endothelial rejection episodes that resulted in endothelial insufficiency of ¾ of DSAEK graft and visual acuity of <1/10 cc. Use of Ripasudil 0,4%, 4 times a day, improved visual acuity to 1/10 cc after 1 month of therapy, to 3/10 cc after 4 months and to 5/10 cc after 7 months.

The 2nd case is a female patient 91 y.o, 1 eyed, with corneal endothelial insufficiency and visual acuity of 2/10 cc. Use of Ripasudil 0,4%, 4 times a day, improved visual acuity to 3/10cc after 2 months of therapy, with no further improvement after 7 months.

Discussion: Ripasudil is a Rho kinase inhibitor that is used 2 times a day as an antiglaucoma agent. In a dosage of 4 times a day, it can stimulate reproduction of healthy endothelial cells that can decrease corneal oedema and improve vision. To the best of my knowledge, this is the first time in Greece that Ripasudil 0,4% is being used in patients with corneal oedema.

CR11.

REFRACTIVE CHANGES IN A 13 YEAR OLD CHILD AFTER BLUNT TRAUMA

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Short presentation: The purpose of this presentation is to report the refractive changes that occurred during a two-years period in a 13-year-old child after blunt trauma. VA reduced to 20/200 immediately after trauma due to primary dehiscence of the fovea, that spontaneously resolved. Visual acuity improved to 20/20 2 months after the incident but a change in his refractive status was noticed. The eye was myopic (cycloplegic refraction) and a raise in its axial length was noticed. At the one year follow up cycloplegic refraction was near plano, axial length was reduced and uncorrected visual acuity was 20/20. The refraction was stable at the two-years follow up.

Discussion: We suggest that after blunt trauma reversible refractive changes may occur in dependence to the mechanism of the trauma.

CR12.

SEVERE OCULAR SURFACE TOXICITY FOLLOWING PROLONGED POVIDONE-IODINE EXPOSURE DURING COMPLICATED CATARACT SURGERY

Md Bunyamin Can¹, MD Fatma Sumer¹

¹Recep Tayyip Erdogan University, Turkey

Short presentation: To report a case of severe chemical keratopathy and persistent ocular surface disease following prolonged povidone-iodine (PVP-I) exposure during complicated cataract surgery.

A 68-year-old male patient underwent phacoemulsification for dense brunescant cataract. Intraoperative posterior capsule rupture necessitated anterior vitrectomy via limbal approach, extending surgical duration to 75 minutes. Standard 5% PVP-I was applied preoperatively, with repeated dilute PVP-I irrigations performed throughout the procedure for endophthalmitis prophylaxis. Clinical findings, ocular surface parameters, and treatment outcomes were documented.

On postoperative day one, the patient presented with severe pain and photophobia. Examination revealed diffuse punctate epithelial erosions, reduced Schirmer test values (4 mm, preoperative 12 mm), and decreased tear break-up time (3 seconds). Despite intensive preservative-free lubrication, a persistent epithelial defect measuring 3.2x2.8 mm developed by week one. Impression cytology demonstrated Grade 2 goblet cell loss with squamous metaplasia. Treatment with autologous serum 20% and therapeutic bandage contact lens achieved complete epithelialization by week four. At three-month follow-up, best-corrected visual acuity was 20/30 with residual stromal haze. Moderate dry eye symptoms persisted with an Ocular Surface Disease Index score of 32.

Discussion: This case illustrates the cumulative toxic effects of repeated PVP-I exposure on the ocular surface, mediated through direct cytotoxicity and goblet cell destruction. Although PVP-I remains essential for infection prophylaxis, clinicians should minimize total contact time, ensure thorough irrigation, and consider lower concentrations for repeated intraoperative use, particularly during prolonged procedures.

CR13.

OCT TOPOGRAPHY IN CASE OF ADVANCED KERATOCONUS

G. Karastatiras^{1,2}, W. Muen¹, A. Shaikh¹, K. Koultsiou²

¹Kingston Hospital NHS Foundation Trust, ²Athens Naval Hospital

Short presentation: To present a case report of a patient with advanced Keratoconus and hydrops.

A retrospective case presentation of a 59-year-old who came to the outpatient clinic man with advanced keratoconus who came to the outpatient clinic for a routine follow-up.

Visual Acuity (VA.) was right eye 6/6 with contact lens and left eye CF. The Pentacam examination was not possible, and we performed OCT topography. His CCT was RE 408 μ m and Left eye 267 μ m. The Seidel test was negative and there was a Descemet break and hydrops. The Kmax on left eye was 110D.

Discussion: Optical coherence tomography (OCT) Topography can help us monitor patients with extreme readings and thinning providing a more objective and safer way to monitor patients with advanced Keratoconus.

CR14.

NSAID-INDUCED CORNEAL MELTING FOLLOWING UNCOMPLICATED CATARACT SURGERY IN A DIABETIC PATIENT: A CASE REPORT

Md Bunyamin Can¹, MD Fatma Sumer¹

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Short presentation: To report a case of severe corneal melting associated with topical nonsteroidal anti-inflammatory drug (NSAID) use following routine phacoemulsification in a diabetic patient.

A 72-year-old female with type 2 diabetes mellitus and mild meibomian gland dysfunction underwent uneventful phacoemulsification. Postoperative regimen included nepafenac 0.1% three times daily for cystoid macular edema prophylaxis. Clinical progression, management strategies, and outcomes were documented.

At postoperative week three, the patient presented with pain and decreased vision (20/100). Examination revealed a central epithelial defect with stromal thinning of approximately 40% depth, progressing to 60% with early descemetocele formation within 48 hours. Cultures remained sterile. Immediate nepafenac discontinuation was followed by oral doxycycline, topical medroxyprogesterone, and preservative-free lubrication. Cyanoacrylate tissue adhesive was applied, and amniotic membrane transplantation was performed on day three. Complete re-epithelialization occurred by week two post-transplantation. At six-month follow-up, best-corrected visual acuity improved to 20/30 with rigid gas permeable contact lens, despite residual stromal scarring.

Discussion: NSAID-induced corneal melt occurs through a two-stage mechanism involving epithelial breakdown secondary to prostaglandin E2 depletion, followed by stromal degradation mediated by matrix metalloproteinase upregulation. Diabetic patients with subclinical ocular surface disease and reduced corneal sensation represent a high-risk population. Comprehensive preoperative ocular surface evaluation, corneal sensation testing, and individualized risk-benefit assessment are essential before initiating postoperative NSAID therapy. Close monitoring with low threshold for discontinuation may prevent this potentially sight-threatening complication.



CR15.

ENDOCRINE MUCIN-PRODUCING SWEAT GLAND CARCINOMA OF THE EYELID WITH PROGRESSION TO INVASIVE MUCINOUS ADENOCARCINOMA: A RARE ENTITY WITH BREAST CARCINOMA ANALOGY

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Short presentation: Endocrine mucin-producing sweat gland carcinoma (EMPSGC) is an exceptionally rare low-grade cutaneous neoplasm with striking predilection for the eyelids; fewer than 100 cases have been reported. EMPSGC is considered a precursor lesion that may progress to invasive mucinous adenocarcinoma, paralleling the transition from endocrine ductal carcinoma in situ to Type B invasive mucinous carcinoma of the breast. We report a case demonstrating this histopathological progression with comprehensive immunohistochemical characterization.

A 72-year-old male presented with a slowly enlarging, painless nodule on the left upper eyelid over 8 months. Examination revealed a firm, non-tender subcutaneous mass without ulceration. Initial impression was epidermal inclusion cyst. Surgical excision with 4mm margins was performed, followed by histopathological examination with immunohistochemistry including neuroendocrine markers. Systemic evaluation with PET-CT excluded distant primary malignancy.

Histopathology revealed a biphasic tumor: superficial component showing solid nests and papillary structures of low-grade epithelial cells with intracytoplasmic mucin, transitioning to extracellular mucin pools containing floating tumor cell clusters in deeper tissue (invasive mucinous adenocarcinoma). Immunohistochemistry demonstrated positivity for neuroendocrine markers (chromogranin, synaptophysin) and hormone receptors (estrogen receptor, progesterone receptor); CK7 positive, CK20 negative. Margins were clear. PET-CT excluded breast or other primary malignancy. Reconstruction was performed with advancement flap. At 24-month follow-up, no recurrence or metastasis was detected.

Discussion: EMPSGC represents a rare low-grade neuroendocrine carcinoma that may progress to invasive mucinous adenocarcinoma. Recognition of its dual immunophenotype (neuroendocrine and hormone receptor positivity) is essential for diagnosis. Complete excision with clear margins is curative. Long-term surveillance is recommended given potential for delayed recurrence.

CR16.

PRIMARY MUCINOUS CARCINOMA OF THE EYELID MIMICKING RECURRENT CHALAZION: A DIAGNOSTIC CHALLENGE

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Short presentation: Primary mucinous carcinoma (PMC) of the eyelid is an exceptionally rare, low-grade malignancy arising from eccrine sweat glands, with fewer than 150 cases reported worldwide. Its indolent presentation frequently mimics benign lesions, leading to diagnostic delays. We report a case of PMC initially misdiagnosed as recurrent chalazion, highlighting the critical role of histopathological evaluation and immunohistochemical analysis in distinguishing primary from metastatic mucinous adenocarcinoma.

A 68-year-old female presented with a slowly progressive, painless, gelatinous nodule on the left lower eyelid persisting for 18 months. The patient had undergone two previous incision and curettage procedures for presumed chalazion, with recurrence within 3-6 months. Examination revealed a 12x8mm, well-circumscribed, pinkish-tan nodule at the medial lower eyelid. Wide local excision with 5mm margins was performed, followed by histopathological examination with extensive immunohistochemistry panel and systemic workup including PET-CT and mammography.

Histopathology revealed epithelial cell islands floating in abundant extracellular mucin pools. Immunohistochemistry demonstrated positivity for CK7, GCDFP-15, estrogen receptor, progesterone receptor, and p63, with negativity for CK20 and CDX2, supporting primary cutaneous origin. PET-CT and mammography excluded occult malignancy. Margins were clear. Reconstruction using Tenzel semicircular rotation flap achieved excellent functional and cosmetic outcomes. At 18-month follow-up, no recurrence or metastasis was detected.

Discussion: PMC can masquerade as benign eyelid lesions. Recurrent chalazion unresponsive to conventional treatment warrants excisional biopsy with histopathological examination. Comprehensive immunohistochemistry is essential to differentiate primary from metastatic mucinous carcinoma, excluding breast and gastrointestinal origins. Complete surgical excision with clear margins remains the cornerstone of treatment.



CR17.

INTERFACE HAZE FOLLOWING SMILE IN A YOUNG MYOPIC PATIENT: COMPLETE RESOLUTION WITH TOPICAL CORTICOSTEROID THERAPY

Fatma Sumer¹

¹Recep Tayyip Erdogan University, Merkez, Turkey

Short presentation: To report a case of interface haze after small incision lenticule extraction (SMILE) successfully managed with topical corticosteroids.

A 28-year-old female underwent bilateral SMILE (VisuMax, Carl Zeiss Meditec) for high myopia (-7.50 -1.25 x 180 OD, -7.00 -1.00 x 175 OS) with 120 µm cap thickness. At two weeks postoperatively, the left eye showed Grade 2 interface haze with UDVA of 20/40 and BCVA of 20/30. AS-OCT revealed hyperreflective deposits at the cap-stromal interface. DLK was excluded. Intensive therapy was initiated with prednisolone acetate 1% every two hours, tapered over eight weeks. Haze decreased to Grade 1 at two weeks (UDVA 20/30) and trace at four weeks (UDVA 20/25). Complete resolution was achieved at eight weeks with final UDVA and BCVA of 20/20 OS. AS-OCT and Scheimpflug densitometry confirmed normalization. IOP remained stable with no complications. Visual acuity remained stable at six-month follow-up.

Discussion: Interface haze can occur after SMILE in high myopic corrections. Early intensive topical corticosteroid therapy achieves complete resolution without surgical intervention. DLK should be excluded, and extended steroid therapy may benefit high myopic patients.

CR18.

LATE-ONSET CORNEAL HAZE FOLLOWING LASIK IN A YOUNG MYOPIC PATIENT: COMPLETE RESOLUTION WITH INTENSIVE TOPICAL CORTICOSTEROID THERAPY

Dr. Ilkay Salman¹, Dr. Fatma Sümer¹

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Short presentation: To report a case of late-onset corneal haze after uneventful femtosecond laser-assisted LASIK in a young myopic patient, successfully managed with intensive topical corticosteroid therapy without surgical intervention.

A 28-year-old female underwent bilateral femtosecond LASIK for moderate myopia (-5.25 -0.75 x 180 OD; -4.75 -0.50 x 175 OS) without mitomycin C. Postoperative treatment included moxifloxacin 0.5% for one week and tapered prednisolone acetate 1%. At two weeks, uncorrected distance visual acuity (UDVA) was 20/20 bilaterally. At six weeks, following intense unprotected sun exposure, the patient developed blurred vision and glare in the right eye. UDVA decreased to 20/50 OD. Slit-lamp examination showed grade 2 subepithelial haze (Fantès scale). AS-OCT demonstrated subepithelial hyperreflectivity, and Scheimpflug densitometry revealed increased anterior stromal density. Intensive topical prednisolone acetate 1% was initiated with gradual tapering, followed by fluorometholone 0.1%, along with preservative-free artificial tears, UV protection, and oral vitamin C.

Corneal haze progressively regressed, achieving complete resolution by twelve weeks. Final UDVA and BCVA were 20/20 OD with normalized densitometry and stable intraocular pressure. At six months, corneal clarity and visual acuity remained stable.

Discussion: Late-onset corneal haze may occur after LASIK, particularly following UV exposure. Early aggressive topical corticosteroid therapy can achieve complete resolution, avoiding surgical intervention.

CR19.

LATE-ONSET EPITHELIAL INGROWTH AFTER UNEVENTFUL LASIK: SURGICAL MANAGEMENT AND OUTCOME

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Short presentation: A patient who had undergone uneventful LASIK surgery on 06.02.2024 with stable 20/20 uncorrected visual acuity at the first-day, first-week and first-month postoperative visits presented on 20.10.2025 with a two-week history of blurred vision and a visible white lesion in the right eye. Uncorrected visual acuity was reduced to 20/100. Slit-lamp examination revealed epithelial ingrowth originating from the flap interface. The patient was taken to surgery on the same day. The epithelium surrounding the ingrowth entry site was debrided, followed by flap lifting. Epithelial tissue was meticulously removed from both the stromal bed and the undersurface of the flap. Mitomycin C 0.02% was applied for one minute and thoroughly irrigated. The flap was repositioned and secured to the cornea using 10-0 nylon sutures, and a bandage contact lens was placed. The procedure was completed without complications.

Discussion: Late-onset epithelial ingrowth can occur even after long-term stable LASIK outcomes. Early recognition and prompt surgical intervention are essential to prevent visual axis involvement. Mechanical debridement combined with adjunctive mitomycin C application and flap suturing may reduce recurrence risk in advanced cases.

CR20.

UNEXPECTED FLAP LOSS, FAVORABLE OUTCOMES: SUCCESSFUL VISUAL REHABILITATION AFTER LASIK FLAP REMOVAL

Lida Lalou, Nina Dimitropoulou, Konstantina Togka, Vasilius Tsagkogiannis, Dionysios Vakalopoulos, Marina Chatzea, Marios Katsimpras, Georgios Kymionis

Athens University Eye Clinic, Georgios Gennimatas

Short presentation: To report the clinical course and surgical management of progressive interface deposits with visual deterioration long after laser in situ keratomileusis (LASIK) and corneal crosslinking (CXL), highlighting the importance of intraoperative adaptability in optimizing patient outcomes.

A 47-year-old patient with a history of myopic LASIK performed 16 years prior and CXL for post-LASIK ectasia 5 years later presented with a one-year history of progressive visual decline in the left eye. Slit-lamp examination demonstrated interface deposits beneath the LASIK flap. During a two-year follow-up, progressive worsening of the deposits, increasing hyperopic shift, and further reduction in visual acuity were documented. Surgical intervention was planned with flap lifting and interface cleaning. Intraoperatively, the LASIK flap was noted to be fragile and was unintentionally amputated during lifting, necessitating immediate modification of the surgical approach.

The flap was discarded and excimer laser phototherapeutic keratectomy (PTK) was performed to remove residual deposits and regularize the anterior stromal surface. A therapeutic contact lens was applied postoperatively. Corneal re-epithelialization was uneventful. Postoperative follow-up revealed significant improvement in uncorrected and corrected visual acuity, accompanied by a marked reduction in the preoperative hyperopic shift.

Discussion: Despite unintended flap loss, favorable visual and refractive outcomes were achieved. This case underscores the critical role of prompt intraoperative adaptation and sound surgical judgment in managing unexpected complications. PTK represents an effective option for visual rehabilitation in complex post-LASIK eyes with interface pathology and prior CXL.

FP01.

COMPLICATION RATES IN CATARACT SURGERY AS A RESIDENT DOCTOR

Dr. Nikolaos Dimitriadis¹

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Purpose: To evaluate intraoperative complication rates and the learning curve in the first 500 cataract surgeries

Method: Retrospective analysis of 500 consecutive phacoemulsification surgeries performed between April 2024 and October 2025.

Results: Mean age was 73.9 years (range 47–93), 53% were female. Nuclear cataracts accounted for 73.2%. Posterior capsular rupture occurred in 1.2% (6/500), vitreous loss in 2.2%, iris prolapse in 3.8%, and wound suturing in 7.8%.

Conclusions: Cataract surgery training demonstrates a steep but effective learning curve with acceptable safety outcomes under supervision.

FP02.

PREDICTORS OF EARLY REFRACTIVE ACCURACY AND LONG-TERM OUTCOMES IN PEDIATRIC CATARACT SURGERY WITH IOL IMPLANTATION: A 10-YEAR RETROSPECTIVE STUDY

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Purpose: To assess the difference between target and postoperative refraction 2 months after pediatric cataract surgery with intraocular lens (IOL) implantation, identify factors influencing early refractive outcomes and determine whether long-term refraction differs from emmetropia in children aged ≥ 8 years at final follow-up.

Method: Children aged ≤ 16 years who underwent cataract surgery with IOL implantation were included. Eligible eyes had documented target and postoperative refraction at 2 months and had reached ≥ 8 years of age at final follow-up. The primary outcome was achieving a spherical equivalent within ± 2.0 diopters (D) of the target at 2 months. Multivariate logistic regression assessed associations with gender, age at surgery, laterality, axial length, IOL formula and microcornea. In children ≥ 8 years at final follow-up, postoperative refraction was compared to emmetropia using the Wilcoxon signed-rank test.

Results: Among 64 eyes, 75% achieved refraction within ± 2.0 D of target at 2 months. SRK/T formula was significantly associated with improved accuracy (OR=15.09; 95% CI 1.47-154.62; P = 0.022), while microcornea lowered the odds (OR = 0.04; 95% CI 0.002-0.83; P = 0.037). Age, gender, axial length and laterality were not significant. At last follow-up, postoperative spherical equivalent differed from emmetropia (P < 0.001), with a Hodges-Lehmann estimate of -1.25 D, indicating myopic shift.

Conclusions: Achieving target refraction after pediatric cataract surgery remains challenging. In this study, IOL formula and microcornea significantly affected early outcomes and long-term follow-up demonstrated a significant myopic shift.

FP03.

EFFECT OF PREOPERATIVE TOPICAL 0.1% NEPAFENAC IN PATIENTS UNDERGOING PHACOEMULSIFICATION WITH PSEUDOEXFOLIATION SYNDROME OR MATURE CATARACT

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Purpose: To evaluate the effect of preoperative topical 0.1% nepafenac on intraoperative pain, pupil dynamics, and surgical outcomes in patients with pseudoexfoliation syndrome (PEX) or mature cataract.

Method: This prospective observational study included 126 eyes of 126 patients divided into four groups: Group 1, PEX-nepafenac (-) (n=32); Group 2, PEX-nepafenac (+) (n=33); Group 3, mature cataract-nepafenac (-) (n=31); and Group 4, mature cataract-nepafenac (+) (n=30). Comparisons were performed between Groups 1 vs. 2 and Groups 3 vs. 4. Pupil diameters were measured from surgical videos at five time points: surgery start (T1), after intracameral epinephrine (T2), after nucleus removal (T3), after cortex aspiration (T4), and after IOL implantation (T5). Intraoperative pain scores, complications, and surgical outcomes were recorded.

Results: Baseline characteristics were comparable among groups (p>0.05). Preoperative nepafenac showed no significant effect on pupil diameter at any time point in PEX patients (Groups 1 vs. 2). In mature cataract patients, pupil diameters were similar between Groups 3 and 4 at T1-T3; however, Group 4 showed significantly larger pupils at T4 and T5 (T4: 7.3 \pm 1.05 mm vs. 6.38 \pm 1.29 mm, p=0.004; T5: 6.85 \pm 1.14 mm vs. 5.87 \pm 1.29 mm, p=0.003). Pain scores, complication rates, and surgical outcomes were similar across all groups (p>0.05).

Conclusions: Preoperative nepafenac preserves intraoperative pupil stability in mature cataract patients, potentially enhancing surgical safety. However, it showed limited effectiveness for pain control in patients with PEX or mature cataract.

FP04.

OCULAR BIOMETRIC MEASUREMENTS IN CATARACT SURGERY CANDIDATES IN GREECE

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Purpose: Describe the ocular biometric parameters and their associations in a population of cataract surgery candidates in Greece.

Method: A cross-sectional study of 3828 eyes of 1914 patients was performed. Biometric parameters of the eyes were measured by optical low-coherence reflectometry (Lenstar LS 900; Haag-Streit AG, Koeniz, Switzerland). The axial length (AL), mean keratometry (K) and astigmatism, anterior chamber depth (ACD), lens thickness (LT), and Corneal Diameter (CD) were evaluated.

Results: The mean age was 63±9 years (23–91 years). Mean AL, Km, and ACD were 23.7±1.29 mm (19.12–31.25 mm), 43.66±1.46 D (40.05–48.56 D), and 2.61±0.34 mm (1.51–5.26 mm), respectively. The mean LT was 4.59±0.44 mm (2.88–5.92 mm) and the mean CD was 12.01±0.48 mm (7.6–14.12 mm). The mean corneal astigmatism was 1.01±0.79 D (0.00–6.38 D) and 41.5% of eyes had astigmatism ≥1.00 D. Male patients had longer AL and ACDs ($p < .001$) and flatter corneas ($p < .001$). In regression models considering age, gender, Km, ACD, LT, and CD, a longer AL was associated with being male and having higher ACD, LT and CD.

Conclusions: These data represent normative biometric values for the Greek population. The greatest predictor of ocular biometrics was gender. There was no significant correlation between age and AL, ACD, or Km.

FP05.

ANTERIOR CHAMBER DYNAMICS AFTER PHACOEMULSIFICATION: THE IMPACT OF PSEUDOEXFOLIATION

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Purpose: To quantitatively examine alterations in anterior chamber depth (ACD) after phacoemulsification in eyes affected by pseudoexfoliation syndrome (PEX) compared with eyes without PEX. Precise estimation of postoperative ACD, which reflects the effective lens position (ELP), is essential for optimizing refractive outcomes following cataract surgery.

Method: A systematic literature search of PubMed and Scopus was performed to identify studies including a non-PEX control group. The primary endpoint was the postoperative change in ACD. Secondary endpoints included preoperative and postoperative ACD, axial length, and intraocular pressure before and after surgery. Pooled outcomes were expressed as weighted mean differences (WMDs) with corresponding 95% confidence intervals (CIs). Methodological quality of included cohort studies was evaluated using the Newcastle–Ottawa Scale. The study protocol was prospectively registered in PROSPERO (CRD420251120246).

Results: Seven studies encompassing 515 eyes met the inclusion criteria, including 232 eyes with PEX and 283 control eyes. Eyes with PEX exhibited significantly reduced preoperative ACD compared with controls (WMD = -0.140 mm; 95% CI, -0.214 to -0.066; $P < 0.001$). No statistically significant difference was observed in postoperative ACD between the two groups (WMD = 0.100 mm; 95% CI, -0.021 to 0.221; $P = 0.107$). However, the postoperative increase in ACD was significantly greater in the PEX group than in controls (WMD = 0.252 mm; 95% CI, 0.169 to 0.336; $P < 0.001$).

Conclusions: Pseudoexfoliation syndrome is associated with a larger increase in anterior chamber depth following phacoemulsification, likely attributable to subclinical zonular weakness. This exaggerated deepening may lead to a more posterior effective lens position than anticipated and contribute to a hyperopic refractive outcome.

FP06.

DIAGNOSTIC PERFORMANCE OF CHATGPT IN CORNEAL DISEASE RECOGNITION FROM SLIT-LAMP PHOTOGRAPHS

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Purpose: To evaluate the ability of ChatGPT-4o in identifying corneal pathology solely from slit-lamp photographs, without any additional clinical context. The aim is to assess the diagnostic accuracy of a large language model (LLM) relative to consultant ophthalmologists, based on standardised prompts and isolated image input.

Method: This was a prospective diagnostic accuracy study evaluating the performance of a LLM, ChatGPT-4o, in identifying corneal pathology from slit-lamp photographs. A total of 22 images were selected from the Atlas at EyeRounds.org (The University of Iowa). Diagnostic accuracy, defined as the proportion of correctly identified cases, was calculated for ChatGPT-4o and two consultant ophthalmologists, against the reference standard. Pairwise comparisons between ChatGPT-4o and each consultant ophthalmologist were performed using McNemar's test to evaluate differences between the AI model and each Consultant Ophthalmologist

Results: The accuracy of identifying a characteristic sign or diagnosis for ChatGPT was 0.50 (95% CI: 0.28 - 0.72, p-value 1.00), compared to 0.64 (95% CI: 0.41 - 0.83, p-value 0.29) for Ophthalmologist A and 0.55 (95% CI: 0.32 - 0.76, p-value 0.83) for Ophthalmologist B. McNemar's test demonstrated a statistically significant difference between ChatGPT and Ophthalmologist A ($p = 0.01$), whereas no statistical significance was observed between ChatGPT and Ophthalmologist B ($p = 0.37$).

Conclusions: In this study, ChatGPT-4o demonstrated moderate diagnostic accuracy in identifying corneal pathology from slit-lamp photographs, with performance comparable to that of consultant ophthalmologists. These findings highlight the potential feasibility of using LLMs as adjunctive tools in ophthalmic image interpretation. Limitations include the AI model's tendency to produce confident yet occasionally inaccurate responses. While not yet suitable for autonomous diagnostic use, ChatGPT-4o shows promise as a supportive aid in clinical decision-making when used under appropriate expert supervision.

FP07.

BEYOND α 1-BLOCKERS: DEMOGRAPHIC AND PHARMACOLOGIC PROFILES IN PATIENTS WITH INTRAOPERATIVE FLOPPY IRIS SYNDROME (IFIS)

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Purpose: To investigate the demographic and pharmacologic profiles of patients with intraoperative floppy iris syndrome (IFIS) during cataract surgery, with a focus on female patients without exposure to classic α 1-adrenergic antagonists.

Method: Retrospective analysis of 53 consecutive patients with intraoperative IFIS (stages I–III). Clinical parameters (age, axial length, BCVA) and detailed histories of medication exposure and dietary supplement use were extracted from electronic records. Statistical comparisons were performed between sexes and between severe (stage III) versus non-severe IFIS (stages I–II).

Results: Among 53 patients (37 males, 15 females; mean age 75 years), severe IFIS occurred significantly more often in males (56.8% vs 20.0%, $p=0.03$). Females had significantly shorter axial length (22.79 mm vs 23.59 mm, $p=0.0015$) and worse postoperative BCVA (0.20 vs 0.10 logMAR, $p=0.029$). Exposure to α 1-blockers (62.2%) and 5 α -reductase inhibitors (40.5%) was observed exclusively in males. Notably, 3 female patients reported regular use of "hair and beauty" dietary supplements, which had not been captured in the initial medication history. Severe IFIS was significantly associated with α 1-blocker exposure (66.7% vs 25.0%, $p=0.005$) and 5 α -reductase inhibitor exposure ($p<0.001$).

Conclusions: Although IFIS remains strongly associated with α 1-blockers and 5 α -reductase inhibitors in males, its occurrence in women without these exposures—and the reported use of specific dietary supplements in a subset—highlights the need for systematic, in-depth preoperative screening for all types of dietary supplements. Incorporating targeted questions on supplement use into preoperative questionnaires is crucial for comprehensive risk assessment and intraoperative management.

FP08.

RETINAL AND CHOROIDAL ALTERATIONS IN KERATOCONUS: AN OPTICAL COHERENCE TOMOGRAPHY STUDY

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Purpose: To evaluate retinal nerve fiber layer (RNFL) thickness, macular parameters, and subfoveal choroidal thickness (SFCT) in keratoconus patients using optical coherence tomography (OCT).

Method: This prospective cross-sectional study included 60 keratoconus patients (60 eyes) and 60 age-matched healthy controls (60 eyes). All participants underwent comprehensive ophthalmic examination including corneal topography (Sirius, CSO). Spectral-domain OCT (Topcon 3D OCT-2000) measured peripapillary RNFL thickness in four quadrants and central macular thickness (CMT). Enhanced depth imaging mode assessed SFCT. Statistical analysis employed independent t-tests and Pearson correlation ($p < 0.05$).

Results: Mean age was 25.4 ± 6.2 years in keratoconus and 26.1 ± 5.8 years in controls ($p = 0.524$). Average RNFL thickness was significantly reduced in keratoconus (103.8 ± 11.4 vs 110.2 ± 10.2 μm , $p = 0.002$). Superior (120.4 ± 14.6 vs 128.2 ± 12.8 μm , $p = 0.003$) and inferior (124.6 ± 15.2 vs 133.4 ± 13.6 μm , $p = 0.001$) quadrants showed significant thinning. CMT was comparable between groups (268.4 ± 22.6 vs 272.8 ± 19.4 μm , $p = 0.268$). SFCT was significantly increased in keratoconus (372.6 ± 86.4 vs 318.4 ± 78.2 μm , $p < 0.001$). Negative correlations were found between maximum keratometry and RNFL thickness ($r = -0.46$, $p < 0.001$).

Conclusions: Keratoconus patients demonstrate significant RNFL thinning and increased choroidal thickness despite preserved central macular structure. These findings suggest posterior segment involvement in keratoconus, possibly related to inflammatory mechanisms or collagen abnormalities.

FP09.

A SERIES OF CASES OF OCULAR SURFACE SQUAMOUS NEOPLASIA (OSSN) MANAGED WITH TOPICAL MITOMYCIN C

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Purpose: The presentation of the clinical management and outcomes of Ocular Surface Squamous Neoplasia (OSSN) treated with topical Mitomycin C therapy.

Method: Two cases involving patients diagnosed with OSSN, who were treated using topical Mitomycin C following standard dosing protocols (0.02% QDS). Patients were monitored throughout the course of treatment to assess clinical response and identify any adverse effects.

Results: Treatment with topical Mitomycin C resulted in favorable clinical regression of the OSSN lesions. The therapy was observed to have minimal associated adverse effects.

Conclusions: Topical Mitomycin C demonstrates efficacy and safety in the management of OSSN. These outcomes support the role of Mitomycin C as an effective and well-tolerated therapeutic option in selected cases of OSSN, particularly as a non-surgical or adjunctive treatment modality.

FP10.

TOPICAL LOSARTAN FOR THE MANAGEMENT OF CORNEAL HAZE: REPORT OF THE FIRST CLINICAL CASES

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Purpose: To evaluate the safety and efficacy of topical losartan in the treatment of corneal haze of various etiologies.

Method: This prospective observational case series includes our first patients treated with topical losartan for visually significant corneal haze. Patients presented with persistent stromal haze following corneal surgery or inflammatory corneal disease, refractory to conventional therapy. Topical losartan 0.8 mg/mL was administered six times daily. Clinical evaluation included best-corrected visual acuity (BCVA), slit-lamp biomicroscopy, corneal densitometry, tomography and patient-reported adverse effects. The follow up continued up to four months.

Results: All treated eyes demonstrated a gradual reduction in corneal haze intensity both on slit-lamp examination and on corneal densitometry. BCVA improved in the majority of cases, accompanied by better tomographic corneal maps. No local or systemic adverse effects related to topical losartan were observed during the follow-up period. Treatment was well tolerated, with no signs of epithelial toxicity or ocular surface disturbance.

Conclusions: Topical losartan appears to be a safe and promising therapeutic option for the management of corneal haze. Its antifibrotic properties may offer a novel, non-invasive approach targeting stromal fibrosis. These first clinical cases support further investigation through larger, controlled studies to better define optimal dosing, treatment duration, and long-term outcomes

FP11.

LONG-TERM GRAFT SURVIVAL AND VISUAL OUTCOMES FOLLOWING MICROTHIN DESCemet STRIPPING AUTOMATED ENDOTHELIAL KERATOPLASTY (MT-DSAEK): UP TO 15 YEARS FOLLOW-UP

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Purpose: To evaluate the long-term results of microthin Descemet Stripping Automated Endothelial Keratoplasty (MT-DSAEK) in patients with Fuchs Endothelial Dystrophy (FED) and non-FED Bullous Keratopathy.

Methods: In this retrospective study, 71 patients (93 eyes) who underwent MT-DSAEK between October 2009 and January 2015 with a minimum 8-year follow-up were included. The primary outcome was graft survival, and secondary outcomes included best-corrected visual acuity (BCVA) and identification of risk factors for graft failure.

Results: The mean follow-up was 10.42 ± 1.85 (range 8-15) years. The cumulative survival of the first graft was 87% at 10 years (95% CI, 78-93%) and 82% at 12 years (95% CI, 71-89%). Late failure of graft function requiring repeat MT-DSAEK occurred in 12 eyes (13%) at a mean interval of 7.0 ± 3.38 years. Late graft failure was associated with increased ocular comorbidities, mostly glaucoma, which was prevalent in 8 eyes (67%). Following repeat surgery, 10 of 12 eyes (83%) achieved functional vision recovery. Mean LogMAR BCVA in eyes with the primary MT-DSAEK was 0.3 ± 0.45 at 1 year postoperatively and 0.3 ± 0.50 at the last follow-up. Mean LogMAR BCVA in eyes without visual co-morbidities was 0.2 ± 0.99 at 1 year postoperatively and 0.1 ± 0.10 at the last follow-up.

Conclusions: MT-DSAEK demonstrates favourable long-term graft survival and sustained vision over a long-term period up to 15 years. Ocular comorbidities, particularly glaucoma, increase the risk of late graft failure. Repeat MT-DSAEK results in the recovery of functional vision in most of the eyes.

FP12.

TOMOGRAPHIC SCREENING OF DONOR CORNEAS FOR OPTIMIZED KERATOPLASTY OUTCOMES

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Purpose: To emphasize the importance of identifying keratoconic donor corneas during eye bank screening, to highlight appropriate tissue allocation, and to present our experience using keratoconic donor tissue for Descemet Stripping Automated Endothelial Keratoplasty (DSAEK), focusing on preparation challenges and their management.

Method: At the Athens Eye Bank, donor corneas are routinely evaluated using optical coherence tomography (OCT MS-39). Donor tissues were considered suspicious for keratoconus based on tomographic findings, including a non-central location of the thinnest corneal point and abnormal thickness progression across corneal zones. Central pachymetry values were not always reduced, as donor corneal edema may mask stromal thinning and result in normal or increased thickness measurements. Corneas identified as keratoconic were allocated for DSAEK. We describe the technical difficulties encountered during endothelial graft preparation, mainly related to reduced stromal rigidity and increased tissue elasticity, and the adjustments required to manage these tissues safely.

Results: Keratoconic donor corneas showed increased tissue deformability during microkeratome-assisted dissection. These challenges were successfully managed with careful tissue handling, optimized pressure in the artificial anterior chamber, and controlled microkeratome advancement. Despite altered biomechanical properties, reliable DSAEK grafts were prepared with preserved endothelial integrity.

Conclusion: Accurate identification of keratoconic donor corneas is critical to avoid their inappropriate use in PKP. OCT-MS 39-based screening addresses the limitations of pachymetry alone in edematous donor tissue and supports appropriate tissue allocation. Although keratoconic corneas present specific challenges during DSAEK graft preparation, suitable technical adjustments allow their safe and effective use, improving donor tissue utilization and patient outcomes.

FP13.

THE AQUEOUS HUMOR - GAS INTERFACE: A NOVEL APPROACH TO UNDERSTAND THE MECHANISM UNDERLYING IOL CALCIFICATION IN POST-ENDOTHELIAL KERATOPLASTY**Mr. Panos Gartaganis¹, Dr. Panagiota Natsi², Professor Sotirios Gartaganis³, Professor Petros Koutsoukos²**¹Western Eye Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom, ²Department of Chemical Engineering, Laboratory of Inorganic and Analytical Chemistry, University of Patras, and FORTH-ICEHT, Patras, Greece, ³Department of Ophthalmology, School of Medicine, University of Patras, Patras, Greece

Purpose: Calcification of hydrophilic intraocular lenses (IOLs) after endothelial keratoplasty (EK) is a recognized complication, yet its physicochemical origin remains unresolved. We investigated whether dynamic interfacial phenomena between aqueous humor and gas during EK gas tamponade create microenvironmental conditions favorable for calcium phosphate nucleation and crystal growth on hydrophilic IOL surfaces.

Method: A multiphase mechanochemical model was developed integrating gas – liquid interface geometry, diffusion-limited ion transport, and supersaturation with respect to calcium phosphate phases. A custom anterior chamber simulation bioreactor reproduced controlled gas fill percentages 60 – 100%, pressure cycles 30 – 50 mmHg, and exposure times 10 – 60 minutes. Hydrophilic IOLs were immersed in synthetic aqueous humor under gas tamponade to mimic post-EK conditions, with a residence contact time of approximately 24 hours at pH 7.40 and $37.0 \pm 0.5^\circ\text{C}$. Post-exposure IOLs were analyzed using optical microscopy, scanning electron microscopy, and energy-dispersive X-ray spectroscopy.

Results: Equilibrium calculations predicted that the aqueous meniscus beneath the gas bubble generates restricted-volume microdomains with higher calcium – phosphate supersaturation than bulk aqueous. Bioreactor experiments reproduced these conditions and produced distinct annular hydroxyapatite deposition zones matching predicted interfacial geometry. Deposits consisted of hydroxyapatite crystallites forming a ring-shaped mineralization front, consistent with clinical observations and directly linked to interfacial supersaturation.

Conclusions: Hydrophilic IOLs calcification after EK is initiated not by global aqueous changes but by localized, transient supersaturation niches at the gas – aqueous – IOL interface during tamponade. This mechanism explains mineralization patterns and suggests preventive strategies involving gas fill dynamics, reduced exposure duration, and surface designs with reduced nucleation affinity.

FP14.

ENHANCED PREDICTABILITY AND AXIS PRECISION OF KLEX, A RETROSPECTIVE ANALYSIS OF MYOPIC ASTIGMATISM CORRECTION

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Purpose: To evaluate three-month visual and refractive outcomes following small-incision lenticule extraction (SMILE) Pro using the VISUMAX 800 femtosecond laser for myopic astigmatism and to compare the findings with previously reported VISUMAX 800 and VisuMax 500 results.

Method: This retrospective observational study included 64 patients (128 eyes) treated with SMILE Pro at the Department of Ophthalmology, Medipol University, Istanbul, between June and November 2024. Preoperative and three-month postoperative data were reviewed for eyes with corrected distance visual acuity (CDVA) ≥ 1.0 . Parameters analyzed included spherical equivalent (SE), refractive astigmatism, and vector analysis. Patients were divided into low (≤ 1.50 D) and high (> 1.50 D) astigmatism groups. Statistical analyses were performed using the Wilcoxon signed-rank and Mann-Whitney U tests ($p < 0.05$).

Results: Attempted and achieved SE showed a strong correlation ($r = 0.97$, $p < 0.001$). At three months, 87% and 87.5% of eyes were within ± 0.50 D and ± 1.00 D of the intended correction. Mean residual astigmatism was -0.56 ± 0.27 D, significantly lower in the low-astigmatism group (-0.39 ± 0.23 D) compared with the high-astigmatism group (-0.72 ± 0.21 D; $p < 0.001$). The mean absolute angle of error was $4.47 \pm 4.68^\circ$, with 97.6% within $\leq 15^\circ$. No intraoperative or postoperative complications were observed.

Conclusions: SMILE Pro using the VISUMAX 800 laser provides safe, accurate, and predictable correction of myopic astigmatism, demonstrating excellent axis alignment and minimal residual error. Outcomes are comparable or superior to earlier VisuMax platforms, confirming improved precision and efficiency.

FP15.

A STEP-BY-STEP GUIDE TO INTERPRETING CORNEAL TOMOGRAPHY

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Purpose: To provide a structured, step-by-step guide for interpreting the Pentacam four-composite map, aiming to support accurate clinical decision-making, improve safety, and optimise outcomes in cataract and refractive surgery.

Method: A targeted literature review was performed using PubMed, the Cochrane Library and Embase. Additional reference material was obtained from the Royal College of Ophthalmologists' Cataract and Refractive Surgery course and the Sinjab Academy Masterclass. Keywords included ectasia, keratoconus, corneal tomography, Pentacam, anterior optical coherence tomography.

Results: The four-composite map integrates anterior sagittal curvature, anterior and posterior elevation maps, and pachymetry across the central 8-mm zone, together with numerical indices describing corneal geometry and anterior segment structure. This dataset provides a comprehensive three-dimensional assessment supporting early detection of ectatic disorders, risk stratification, and surgical planning in laser and non-laser refractive procedures.

Conclusions: Mastery of the Pentacam four-composite map is essential for clinicians involved in corneal and refractive surgery. A systematic interpretive approach improves diagnostic precision, reduces surgical risk, and contributes to safer and more predictable refractive outcomes.

FP16.

CLINICAL OUTCOMES OF LIGHT ADJUSTABLE LENSES (LAL) IN PATIENTS WITH HIGH POSTOPERATIVE VISUAL DEMANDS AND IN PATIENTS AFTER REFRACTIVE SURGERY

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Purpose: The aim of this study was to evaluate visual acuity and refractive outcomes of Light Adjustable Lenses (LAL) in patients with high postoperative visual demands following cataract surgery and in patients with a history of refractive surgery.

Method: This was a retrospective study that included 57 eyes from 32 patients who underwent cataract surgery with LAL implantation. Eleven eyes had a history of previous refractive surgery. Data collected included demographic characteristics, preoperative biometric parameters, number of light adjustments, visual acuity, and final spherical equivalent (SE).

Results: Overall, 93.3% of eyes achieved a final SE within ± 0.50 D of the intended target, and 86.7% within ± 0.25 D. The mean postoperative uncorrected distance visual acuity in eyes targeted for distance vision was 0.07 logMAR, while the mean near visual acuity in eyes targeted for near vision was 0.13 logMAR. All eyes targeted for near or intermediate vision achieved the desired refractive target. Eyes with a history of refractive surgery demonstrated comparable visual and refractive outcomes to eyes without previous refractive surgery, although a slightly higher number of light adjustments was required. No intraoperative complications or serious postoperative adverse events were recorded in the patients studied. All eyes showed a statistically significant improvement in visual acuity and improvement in SE ($p < 0.05$).

Conclusions: Light Adjustable Lenses offer high refractive accuracy, safety, and postoperative flexibility. They represent a reliable and effective option for patients with high visual demands following cataract surgery, including those with a history of prior refractive surgery.

FP17.

VALIDATION OF THE DDIVAT DIGITAL CHART IN THE BULGARIAN POPULATION

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Purpose: To validate the Bulgarian version of the Democritus Digital Visual Acuity Test (DDiVAT) for the assessment of distance visual acuity in a Bulgarian-speaking population.

Method: Bulgarian-speaking adults participated in the study. Monocular distance visual acuity was measured in the same participants using two methods: the web-based digital chart DDiVAT and the conventional ETDRS chart used in routine clinical practice. Measurements were performed under controlled conditions with participants wearing their habitual optical correction, when applicable. Agreement and reliability between the two methods were evaluated using the Intraclass Correlation Coefficient (ICC) and Bland–Altman analysis.

Results: ICC analysis demonstrated a high level of agreement between visual acuity measurements obtained with DDiVAT and the ETDRS chart, indicating excellent reliability of the digital application. Bland–Altman analysis confirmed good agreement between the two methods, with no systematic bias and narrow limits of agreement, supporting the clinical equivalence of the measurements.

Conclusions: The Bulgarian version of DDiVAT is a valid and reliable digital tool for measuring distance visual acuity and can be safely used in routine clinical practice in the Bulgarian-speaking population.

FP18.

THREE-YEAR FOLLOW-UP OF PRESCHOOL CHILDREN'S VISUAL ACUITY SCREENING IN THE MUNICIPALITY OF ALEXANDROUPOLIS

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Purpose: This study aimed to screen visual acuity in preschool children and to evaluate the outcomes of an organized, school-based vision screening approach over a three-year follow-up period.

Method: This was a prospective, epidemiological, school-based study. Preschool children attending public kindergartens in the Municipality of Alexandroupolis underwent visual acuity screening over three consecutive school years. Assessments were conducted within school facilities, and participants were grouped according to age. Visual acuity was evaluated using the DDiVAT digital optotype, a certified and validated web-based tool employing Tumbling E symbols. Presenting visual acuity values were recorded, and age-adjusted minimum visual acuity thresholds were applied to determine referral criteria.

Results: A total of 2,476 children were examined over the three-year period, corresponding to more than 80% of the registered preschool population. A statistically significant improvement in presenting visual acuity was observed with increasing age. Overall, 8.36% of children were referred for further ophthalmological evaluation due to suboptimal visual acuity or inability to cooperate. A substantial proportion of children examined in consecutive school years demonstrated a clear improvement in visual acuity upon re-examination.

Conclusions: Preschool visual acuity screening constitutes a critical component of primary ophthalmic care, as it enables the early detection of refractive errors and other ocular conditions requiring timely intervention.

PP01.

CONGENITAL CATARACT ASSOCIATED WITH DYSMORPHIC SYNDROMES – A SYSTEMATIC REVIEW

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Purpose: Dysmorphic syndromes are frequently associated with congenital cataract, presented at birth or developing within the first year of life. These syndromes are characterized by genetic, clinical, and multisystem abnormalities that contribute to cataractogenesis. The aim of this systematic review is to provide a group-specific analysis of congenital cataract in dysmorphic syndromes, highlighting shared genetic, metabolic, and multisystem associations.

Method: A systematic review of the literature was conducted focusing on congenital cataract in the context of dysmorphic syndromes. Disorders of connective tissue, metabolic diseases, chromosomal abnormalities, neurological syndromes, and renal disorders were included. Representative examples from each category were analyzed to illustrate the heterogeneity of clinical presentation.

Results: Congenital cataract is associated with multiple connective tissue disorders, including Weil–Marchesani, Stickler, and Marfan syndromes, accompanied by additional ocular or systemic manifestations. Metabolic disorders such as galactosemia, Smith–Lemli–Opitz syndrome, and peroxisomal biogenesis disorders demonstrate congenital cataract resulting from disrupted metabolic pathways and peroxisomal dysfunction. Chromosomal abnormalities, including Down syndrome and Cri du Chat syndrome, exhibit an increased prevalence of congenital cataract, frequently in conjunction with neurodevelopmental impairment. Neurological syndromes, such as Cockayne syndrome and cerebro-oculo-facio-skeletal syndrome, may also present with congenital cataract as part of widespread neurological and ocular dysfunction. Additionally, congenital cataract is associated with renal disorders, such as Alport syndrome. In summary, the pathogenetic mechanisms in the syndromes mentioned above include genetic mutations, disturbances in collagen synthesis, metabolic abnormalities, and peroxisomal dysfunction. Accurate diagnosis, early detection, and genetic counseling are critical factors for optimal clinical management.

Conclusions: Congenital cataract in dysmorphic syndromes represents a complex clinical entity driven by multisystemic pathophysiological mechanisms. Early recognition of the underlying syndrome, as well as a multidisciplinary approach, is critical for improving visual and systemic outcomes.

PP02.

ENDOART IN CORNEAL ENDOTHELIAL DISEASE: SYSTEMATIC REVIEW AND META-ANALYSIS OF CLINICAL OUTCOMES AND COMPLICATIONS

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Purpose: To systematically evaluate the safety, clinical outcomes and complications of EndoArt as an alternative to donor endothelial keratoplasty for chronic corneal oedema.

Method: MEDLINE/EMBASE, PubMed, Cochrane Library, and Google Scholar were searched for studies published between 1st Jan 2020 and 17th May 2025 reporting clinical outcomes following EndoArt implantation. 12 studies were included. Eligible studies included case reports, case series, retrospective observational, and single-arm interventional studies. Overlapping cohorts were resolved by retaining the most complete datasets. Risk of bias was assessed by Joanna Briggs Institute critical appraisal tools and Methodological Index for Non-randomized Studies. Quantitative synthesis was pre-specified for outcomes with ≥ 2 studies; meta-analysis used standardised mean differences or pooled event rates with heterogeneity.

Results: Four studies (56 eyes) were included for quantitative analysis. Pooled visual acuity improved (SMD -0.728 ; 95% CI -1.277 to -0.180 ; $p=0.009$); mean visual acuity changed from 1.561 to 1.212 logMAR with low heterogeneity ($I^2 = 20.428\%$, $p = 0.285$). Central corneal thickness decreased (SMD -1.420 ; 95% CI -1.867 to -0.974 ; $p<0.001$); mean central corneal thickness fell from 755.46 to 554.07 μm with low heterogeneity ($I^2 = 0\%$). The pooled rebubbling rate was 60.2% (95% CI 38.7 to 78.4%; $I^2 = 52.88\%$). The most frequently reported adverse event included partial implant detachment and raised intraocular pressure.

Conclusions: EndoArt achieves meaningful deturgescence and visual acuity gains but at the cost of high detachment and rebubbling rates. Given current evidence, EndoArt is best suited as salvage therapy, offering independence from donor tissue. No immune response was observed. Larger cohort comparative studies are required to refine indications and technique.

PP03.

EVALUATION OF PERIOPERATIVE ANXIETY IN CANDIDATES FOR CATARACT SURGERY

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Department of Ophthalmology, General Hospital of Serres

Purpose: Cataract surgery is often associated with preoperative anxiety, yet findings on anxiety levels shortly after surgical scheduling remain inconsistent. The purpose of this study was to evaluate the level of state anxiety at the time of surgical scheduling, while adjusting for trait anxiety, cognitive status, and perioperative risk factors.

Method: This observational comparative study included 140 patients: 70 scheduled for cataract surgery and 70 deemed ineligible due to insufficient opacification. Anxiety levels were measured using the State-Trait Anxiety Inventory (STAI), and cognitive function was assessed with the Mini Mental State Examination (MMSE). Surgical candidates were classified into four perioperative risk categories. Comparative analyses employed chi-square tests, ANOVA, and multivariate regression models while controlling confounders.

Results: Clinically significant state anxiety was identified in 34/70 (48.6%) of surgical patients versus 9/70 (12.9%) of controls (chi-squared = 23.87, $p < 0.001$). Among surgical candidates, state anxiety scores differed significantly by risk category ($p = 0.003$), ranging from 47.4 (no risk) to 52.9 (moderate risk). Trait anxiety was a strong independent predictor ($p < 0.001$, eta-squared = 0.718). Gender alone was non-significant ($p = 0.936$); however, female patients in the surgical group reported greater anxiety than males ($p = 0.028$). Cognitive status showed no statistically significant association ($p = 0.330$).

Conclusions: Patients scheduled for cataract surgery demonstrated heightened levels of anxiety, particularly women and those with perceived perioperative risk. These findings emphasize the importance of early identification and targeted interventions to reduce anxiety in vulnerable surgical candidates.

PP04.

PHACOEMULSIFICATION OUTCOMES IN NONAGENARIANSDoaa Kerwat¹, Dr Enida Hoxha¹, Dr Anish Malik¹, Dr Oluwadamilola Ogunto¹, Mr Diya Baker², Mr Nikolaos Kopsachilis², Mr Ejaz Ansari³¹Maidstone and Tunbridge Wells NHS Trust, Maidstone, United Kingdom, ²East Kent Hospitals NHS Trust, Ashford, United Kingdom, ³Institute of Medical Sciences, Canterbury Christ Church University, Kent, UK, Canterbury, United Kingdom

Purpose: Advances in surgical techniques and increasing life expectancy have resulted in a growing number of nonagenarians undergoing cataract surgery. However, published data on surgical outcomes in this age group remain limited. This study aimed to evaluate the visual outcomes and complication rates of cataract surgery in patients aged 90 years and older.

Method: A single-centre retrospective review was conducted of consecutive cataract surgeries performed at Maidstone & Tunbridge Wells Hospitals between January 2023 and August 2025. The primary outcome was the proportion of eyes achieving best-corrected visual acuity (BCVA) of 0.3 logMAR or better postoperatively. Secondary outcomes included intra-operative and postoperative complications and adverse events. Demographic data collected included age, sex, ocular and systemic comorbidities, surgeon grade, and anaesthetic type.

Results: A total of 387 eyes from 267 patients were identified, of which 229 eyes had complete pre- and postoperative BCVA data and were included in the analysis. The mean age was 92 ± 2.16 years (range 90–102). Mean BCVA improved from 0.78 logMAR preoperatively to 0.45 logMAR postoperatively, with 62% of eyes achieving BCVA ≤ 0.3 logMAR (mean improvement 0.3 logMAR). The most common ocular comorbidity was age-related macular degeneration (52%), followed by glaucoma (16.2%). Posterior capsular rupture occurred in 1.6% of cases, and endophthalmitis in 1%.

Conclusions: Although visual outcomes in nonagenarians are limited by a high prevalence of ocular and systemic comorbidities, cataract surgery provides meaningful visual improvement in a significant proportion of patients and can be safely performed in this age group.

PP05.

LASER-GUIDED STRATEGY FOR OCULAR SURFACE PROTECTION: PREVENTING POST-CATARACT DRY EYE BY TARGETING EYELID TELANGIECTASIAS

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Purpose: To evaluate the efficacy of focal 532-nm subthreshold micropulse laser photocoagulation of eyelid margin telangiectasias for managing cataract surgery-induced dry eye disease (DED) in patients with meibomian gland dysfunction (MGD).

Method: In this prospective, randomized, double-masked, 60 eyes of 60 patients with MGD undergoing cataract surgery were allocated (1:1) to receive two sessions of either active laser (Laser Group) or sham treatment (Control Group). Sessions were administered 7 days preoperatively and 7 days postoperatively. Efficacy assessments, including Ocular Surface Disease Index (OSDI), Tear Break-Up Time (TBUT), Schirmer test, tear meniscus parameters, eyelid margin vascularity, meibomian gland expressibility, secretion quality, and corneal staining, were performed at baseline and 4, 8 and 12 weeks post-surgery.

Results: The Laser Group demonstrated significant and sustained improvements in TBUT, tear meniscus parameters, corneal staining, and meibomian gland function (expressibility and secretion quality) from week 4 through week 12 ($P < 0.05$). Eyelid margin vascularity was markedly reduced until week 8 ($P < 0.001$). No significant changes occurred in the Control Group. Meiboscore and chronic lid margin structure remained unchanged in both groups. No adverse events were recorded.

Conclusions: Perioperative focal subthreshold laser treatment effectively improves tear film stability and ocular surface parameters following cataract surgery in patients with MGD, presenting a safe and targeted adjunctive management strategy.

PP06.

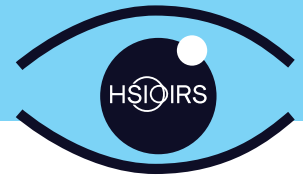
AN UNUSUAL PRESENTATION OF OCULAR HYPERTENSION AFTER DSEK: DIAGNOSTIC DILEMMAS AND THE CRITICAL ROLE OF PHARMACOKINETIC DRUG INTERACTIONS

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Short Presentation: We report a rare iatrogenic scenario of ocular hypertension and graft edema following Descemet Stripping Endothelial Keratoplasty (DSEK) due to a pharmacokinetic drug interaction, with important implications for differentiating this entity from graft rejection. A 55-year-old man with prior DSEK for Fuchs endothelial dystrophy presented with progressive visual decline, elevated intraocular pressure (IOP 28 mmHg), and corneal edema. He was receiving topical dexamethasone 0.1% and had recently initiated systemic ritonavir as part of antiretroviral therapy. Suspected graft rejection prompted intensification of corticosteroid treatment, resulting in dramatic clinical deterioration (IOP > 40 mmHg) and marked worsening of corneal/graft edema. Further evaluation raised the suspicion of a pharmacokinetic interaction. Discontinuation of both topical dexamethasone and ritonavir led to rapid normalization of IOP and clearance of graft edema, confirming the diagnosis and restoring visual acuity.

Discussion: This case highlights a serious yet reversible iatrogenic risk in post-DSEK patients receiving protease inhibitors (e.g., ritonavir) concomitantly with topical corticosteroids. The presentation can mimic graft rejection, with a risk of inappropriate therapeutic escalation. Thorough medication reconciliation—including systemic therapies—is essential both preoperatively and during postoperative follow-up. Early recognition of such interactions is crucial to preserve graft clarity and optimize visual outcomes.



V01.

OPEN-SKY DRY PHACOEMULSIFICATION DURING A TRIPLE PROCEDURE ONE YEAR AFTER THERAPEUTIC PENETRATING KERATOPLASTY FOR FUNGAL KERATITIS

Konstantinos I. Rallis

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Short Presentation: In this video, we present a case of combined keratoplasty and cataract surgery (triple procedure) to restore vision. One year earlier, the patient had undergone a therapeutic keratectomy due to severe fungal keratitis that was resistant to medical treatment. Because of the intense inflammation caused by the fungal keratitis, the patient had developed posterior synechiae and a white cataract.

After trephination and capsulorhexis, an attempt was made to express the lens, but this proved impossible. It was therefore decided to perform open-sky phacoemulsification with closed infusion. Using a stop-and-chop technique and with great care, the hard crystalline lens was fragmented without fluid infusion. An intraocular lens was implanted, and the corneal graft suturing was completed without complications.

Discussion: In cases of combined keratoplasty and cataract surgery, when corneal clarity is limited, lens removal often must be performed with an open-sky approach. In most cases, the lens can be removed by expressing it through the capsulorhexis. However, there are situations where this is not possible, as in the case described. In such cases, phacoemulsification can be performed with closed infusion. Infusion reduces visibility and offers no benefit since the procedure is not performed in a closed system. The literature on this technique is extremely limited.

V02.

ICE ICE (syndrome) BABY

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Short Presentation: 75-year-old male with no ophthalmological history, presented due to reported reduced vision in both eyes. Upon clinical examination, the following are observed: BCVA 5/10 RE and 6/10 LE, cornea guttata RE, polycoria RE, IOP = 27/21 mmHg and cataract BE, with an edematous lens RE and PAS 1st-6th RE on gonioscopy. From the clinical features, the diagnosis of Iridocorneal endothelial syndrome (ICE syndrome) and specifically Essential/Progressive Iris atrophy RE is made and topical antiglaucoma medication is initiated and cataract removal is scheduled. Due to pupillary atrophy, malyugin ring insertion was performed, followed by uncomplicated phaco. The postoperative period was uneventful.

Discussion: ICE syndromes, although rare in presentation, require individualized phaco approach. Patients need to be informed preoperatively about both possible complications and the nature of the condition.

V03.

CORNEOSCLERAL GRAFT IN MOOREN'S ULCER INDUCED BY ALKALI CHEMICAL BURN

Vakalopoulos D.¹, Tsagkogiannis V.¹, Katsimpras M.¹, Lalou L.¹, Togka K.¹, Chatzea M.¹, Dimitropoulou N.¹, Kymionis G.¹

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Short Presentation: To report a case of Mooren's ulcer induced by alkali burn trauma which was managed with corneoscleral graft transplantation.

A 35-year-old man was referred to the cornea department because of Mooren's ulcer in the left eye. He had a work accident that took place 6 months ago, when his left eye was injured by an asbestos cloth. Ever since, he had been suffering from ocular pain and blurry vision. A Gundersen conjunctival flap had been performed in the previous institution, without any results. Slit-lamp examination revealed diffuse stromal melting of the inferior limbal cornea, without any scleral involvement. A complete antibody serology test was performed, turning back all values negative and the possibility of an underlying autoimmune disease was ruled out. A course of IV and oral methylprednisolone was administered with marked improvement of the inflammation, however one week later the patient came back and a perforated cornea with an absent anterior chamber was noted. A corneoscleral transplantation was performed to save the eye.

The next postoperative day the anterior chamber was formed and the intraocular pressure was 15mmHg. One month later, the sutures were removed. Three months later, the cornea remained clear.

Discussion: We present a malignant form of Mooren's ulcer induced by alkali chemical burn which ended to corneal perforation and was successfully managed by corneoscleral transplantation.

V04.

ALLOGENEIC ANTERIOR LENS CAPSULE TRANSPLANTATION (ALCT) FOR THE MANAGEMENT OF HSV NEUROTROPHIC KERATITIS

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Short Presentation: We present a novel surgical approach for the management of herpes simplex virus (HSV)-related neurotrophic epithelial keratitis using allogeneic anterior lens capsule transplantation (ALCT).

An 81-year-old male with a long-standing history of recurrent HSV keratitis in the left eye was referred to our department due to a persistent neurotrophic epithelial defect lasting over three months, refractory to multiple conventional treatments. At presentation, corrected distance visual acuity was 20/200 in the right eye and no light perception in the affected left eye. Slit-lamp examination revealed a non-healing epithelial defect with associated stromal thinning and corneal scarring.

An allogeneic anterior lens capsule was transplanted over the epithelial defect, functioning as a biological dressing. The graft was secured using a small amount of fibrin glue, and a bandage contact lens was applied to ensure stability. No intraoperative or postoperative complications were observed. Two weeks postoperatively, the anterior lens capsule was removed, revealing complete epithelial closure. At two-month follow-up, the corneal epithelium remained fully healed, with a notable reduction in stromal scarring.

Discussion: ALCT may promote epithelial regeneration by providing a biocompatible basement membrane-like scaffold. This technique appears to be a promising, easy, and cost-effective option for refractory neurotrophic keratitis.

V05.

PENETRATING KERATOPLASTY FOR CORNEAL PERFORATION IN AN EYE WITH PREVIOUS RADIAL KERATOMY

Karagiannidou Z¹, Orfanidou M, Ioannidis P, Amaxilati E, Mikropoulos D

¹AHEPA University Hospital

Short Presentation: To report a case of spontaneous corneal perforation in an eye with a history of radial keratotomy (RK) and secondary Sjögren's syndrome, managed with penetrating keratoplasty.

A 61-year-old male presented with sudden visual acuity deterioration in the right eye. His ophthalmic history included bilateral radial keratotomy for myopia 40 years earlier, bilateral entropion repair, bilateral phacoemulsification, and secondary Sjögren's syndrome. Clinical findings and surgical management are described.

On presentation, visual acuity was hand motion perception. Slit-lamp examination revealed a corneal perforation with a flat anterior chamber. Cyanoacrylate glue and a bandage contact lens were applied, resulting in reformation of the anterior chamber. Subsequently, penetrating keratoplasty was performed. Intraoperatively, 360-degree iris prolapse, anterior chamber collapse, and vitreous loss were observed. Anterior vitrectomy was carried out, and the corneal graft was secured with interrupted sutures.

Discussion: Eyes with previous radial keratotomy and ocular surface disease are at increased risk of corneal instability and perforation, even decades after surgery. Penetrating keratoplasty in such cases is surgically challenging due to altered corneal biomechanics and requires careful intraoperative management.

V06.

MAINTAINING CLARITY WITH NOVEL COMBINED ENDOART-PK: A CHALLENGING CASE OF RETINAL DETACHMENT REPAIR IN AN ONLY EYE WITH SIX PREVIOUS CORNEAL GRAFTS

Kanellopoulou K¹, Luo Y¹, Fu L¹

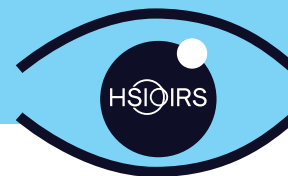
¹East Kent Hospitals University NHS Foundation Trust

Short Presentation: We present a novel technique for managing complex posterior segment pathology with a combined EndoArt-PK graft to maintain clarity.

A 63-year-old male patient had undergone six previous corneal grafts, a scleral-sutured intraocular lens implant and secondary retinal detachment (RD) repairs with silicone oil tamponade, resulting in reduced vision (light perception) in his only remaining eye due to opacification of his last graft. Systemically, the patient is severely autistic and non-compliant with posturing. We performed stromal peeling of the opacified old penetrating keratoplasty (PK) graft to bare the Descemet's membrane, allowing visualisation of an opacified IOL that was explanted. Intra-operative visualisation of the posterior segment through the Descemet's membrane was excellent, allowing further retinal detachment repair with peeling of PVR membranes and retinectomy to re-attach the posterior pole with further silicone oil tamponade. A fresh 8.5mm PK graft button, combined with a 6.5mm EndoArt, was sutured into place.

Postoperatively, the cornea remained clear with normal intraocular pressure, and the EndoArt remained fully attached. Vision improved to hand movements, and the patient demonstrated improved visual responses to stimuli.

Discussion: Combined EndoArt-PK can be used to maintain clarity and reduce the risk of graft failure in complex eyes in a single procedure. This is especially useful in high-risk eyes with multiple previous grafts and long-term silicone oil tamponade in situ.



V07.

SURGICAL MANAGEMENT OF ASPERGILLUS FUNGAL KERATITIS WITH THERAPEUTIC PENETRATING KERATOPLASTY

Gardeli I

Cornea and Transplant Department, State Ophthalmology Clinic, GNA "G. Gennimatas" Hospital

Short Presentation: A 35-year-old male was referred to the emergency department with a history of 10-day hospitalization in a tertiary eye clinic for a right eye corneal ulcer, as a result of ocular trauma caused by a stone during agricultural work. A diagnosis of fungal keratitis was established, which, despite intensive topical and systemic antifungal treatment, showed rapid clinical deterioration. Given the rapid irreversible clinical deterioration, an emergency therapeutic penetrating keratoplasty was performed. Following trephination and removal of the infected corneal tissue, anterior chamber irrigation and mechanical removal of hypopyon and fibrin were performed using an open-sky technique, as well as additional irrigation of topical voriconazole. The corneal graft replaced the excised tissue and was sutured in place. Postoperatively, topical cyclosporine A 0.5% was administered instead of corticosteroids. Four months postoperatively, the eye remained free of infection, with a visual acuity of 7/10 and continuous improvement.

Discussion: Therapeutic penetrating keratoplasty is an effective surgical option for fungal keratitis resistant to medical treatment, allowing immediate control of infection and removal of pathological tissue. The use of cyclosporine A instead of corticosteroids appears to be a safe alternative for postoperative immunomodulation in cases of fungal keratitis.

V08.

STAGED SURGICAL RESTORATION OF A POST-TRAUMATIC EYE: ACHIEVING VISUAL AND COSMETIC RESTORATION DECADES AFTER INJURY

Dimitropoulou AN, Lalou L, Togka K, Tsagkogiannis V, Vakalopoulos D, Chatzea M, Katsimpras M, Petrou P, Kymionis G.

Athens University Eye Clinic, Georgios Gennimatas.

Short Presentation: A 42-year-old male patient presented with reduced visual acuity and poor ocular cosmesis of his left eye after ocular trauma during childhood. His ocular history included implantation of an anterior chamber intraocular lens (AC-IOL) for traumatic cataract, surgery for rhegmatogenous retinal detachment and glaucoma drainage device implantation for secondary glaucoma. On examination, his left eye demonstrated severe corneal decompensation, traumatic mydriasis, and a malpositioned AC-IOL. A staged surgical strategy was adopted. Initially, the AC-IOL was explanted and replaced with a scleral-fixated posterior chamber intraocular lens. This was followed by iris suturing to repair the traumatic mydriasis. Finally, endothelial keratoplasty using Descemet stripping automated endothelial keratoplasty was performed to address corneal endothelial failure.

Discussion: This case highlights the value of a carefully planned, stepwise surgical approach in the management of complex post-traumatic anterior segment pathology. By addressing optical, anatomical, and corneal endothelial abnormalities in separate procedures, surgical risk was minimized and visual rehabilitation optimized. Despite the long-standing nature of the initial injury, the patient achieved significant improvement in visual acuity and excellent cosmetic restoration. This approach underscores the potential for meaningful functional and aesthetic recovery in relatively young patients with complex ocular histories when individualized, staged management is employed.

V09.

COMBINED CATARACT SURGERY WITH 360 DEGREES GONIOSCOPY ASSISTED TRANSLUMINAL TRABECULOTOMY FOR THE TREATMENT OF UNCONTROLLED PSEUDOEXFOLIATIVE GLAUCOMA

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¹St Luke's Hospital, Thessaloniki, ²Ophthalmica Institute, Thessaloniki

Short Presentation: A case of combined cataract surgery with Gonioscopy Assisted Transluminal Trabeculotomy (GATT) for a patient with a visually significant cataract and uncontrolled advanced Pseudoexfoliative Glaucoma (PXG) is described. Pre-operative Visual Acuity (VA) was 4/10 and intraocular pressure (IOP) 39mmHg on 4 classes. Standard phacoemulsification with intraocular lens insertion is performed. After the IOL insertion, a 2 mm nasal goniotomy is created and the mushroom tip of a 5-0 Prolene suture is fed into the Schlemm's canal, advancing it 180°. This is then removed with the help of a microforceps thereby creating an 180° goniotomy. The same process is repeated for the superior 180° of the Trabecular Meshwork. After viscoelastic removal, the eye is inflated to a higher than usual IOP to reduce the risk of post-operative bleeding. At post-op month 2, the patient has a VA of 9/10 and an IOP of 12 mmHg on 2 IOP drops.

Discussion: PXG and cataract often co-exist and their management can be particularly challenging. Combined cataract and filtering surgeries have higher than normal failure rates. This Microinvasive Glaucoma Technique is less invasive and overall safer than traditional filtering surgery but equally effective in the short and medium term as supported by published literature.



PHACOEMULSIFICATION IN ADVANCED TRAUMATIC CATARACT WITH IRIDODIALYSIS

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Short Presentation: A 60 year old patient with advanced cataract and only hand motion vision in his left eye presented to our clinic for cataract extraction. Examination revealed a 2 clock hour inferior iridodialysis, and the patient reported a history of blunt ocular trauma several years earlier. Additional pseudoexfoliation was noted, and the pupil remained small even after mydriasis. During phacoemulsification, we used trypan blue dye and a Malyugin ring to manage the dense cataract and poor pupillary dilation. A capsular tension ring was inserted prior to placement of a one piece in the bag intraocular lens. Finally, the iridodialysis was repaired using two different suture techniques, achieving an acceptable postoperative result.

Discussion: Traumatic cataract surgery in the presence of iridodialysis and pseudoexfoliation represents a significant surgical challenge, requiring meticulous preoperative planning, appropriate surgical equipment and intraoperative adaptability. Blunt ocular trauma can lead to zonular weakness, iris defects, poor pupillary dilation and capsular instability, all of which increase the risk of intraoperative and postoperative complications during phacoemulsification.



V11.

USE OF PROLENE SUTURES IN THE MANAGEMENT OF APHAKIA AND INTRAOCULAR LENS DISLOCATION

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General Hospital of Larissa

Short Presentation: To present the versatility of Prolene sutures in the surgical management of aphakia and intraocular lens (IOL) dislocation. Through a series of complicated cases, the selected surgical approach is highlighted in each instance, emphasizing the advantages of Prolene sutures over alternative techniques, as well as their compatibility with all types of intraocular lenses.

Video presentations of three surgical cases, all sharing the Prolene suture use:

1. Management of aphakia / absence of capsular support with ab externo four-point scleral fixation of a single - piece IOL.
2. Management of sunset syndrome of a three - piece IOL, with scleral re-fixation through small sclerotomies.
3. Management of aphakia / absence of capsular support with ab externo two-point scleral fixation of a single-piece IOL.

In all three cases, the use of Prolene sutures allowed precise scleral fixation of the IOLs, resulting in successful visual rehabilitation, without significant complications. In all patients, the postoperative course was uneventful, and long-term follow-up revealed no postoperative IOL dislocation or other complications related to Prolene sutures, such as suture breakage, Uveitis –Glaucoma Hyphema syndrome, or Pseudophakic Iris Chafing syndrome.

Discussion: Prolene sutures represent a reliable, low-cost alternative for the scleral fixation of various types of IOLs, applicable in cases of both aphakia and IOL dislocation. With their safety profile, versatility, and immediate availability in any operating room, Prolene sutures justifiably maintain their role in the modern surgical armamentarium, alongside more advanced solutions such as the Carlevalle lenses or iris-fixated IOLs.

V12.

HOW TO APPROACH WHITE CATARACTS AS A RESIDENT DOCTOR

Dr. Nikolaos Dimitriadis

Resident General Hospital of Sparta, Greece

Short Presentation: Three cases of white cataract with video recording are presented, in which individualized techniques were applied, such as the use of trypan blue, controlled lens decompression and anterior chamber stabilization. In all three cases, continuous capsulorhexis and successful intraocular lens implantation were achieved without serious intraoperative complications.

Discussion: White cataracts remain a technically demanding scenario during residency training. The presented cases highlight the importance of preoperative anticipation, controlled capsulorhexis, and flexibility in surgical strategy. Video analysis emphasizes that safety in white cataract surgery is achieved through patience, chamber stability, and gradual lens decompression rather than speed. When appropriate technique modifications are applied under supervision, optimal outcomes can be achieved even by surgeons early in their learning curve.

V13.

MANAGEMENT OF SUBLUXATED CRYSTALLINE LENS WITHOUT VITRECTOMY

Nikolaos Mamas, Robbie Walker

Moorfields Eye Hospital, London, United Kingdom

Short Presentation: 19-year-old male of Afro-Caribbean descent with a history of trauma was referred to the Vitreoretinal Service for management of a subluxated crystalline lens in the right eye. Visual acuity was 6/18 in the right eye and 6/6 in the left. Intraocular pressures were normal, and slit-lamp examination revealed an inferiorly subluxated lens in the right eye. The rest of the ocular examination was unremarkable.

This video demonstrates our surgical approach: lensectomy with preservation of the capsular bag, fixation using two Ahmed capsular tension segments, and intraocular lens (IOL) implantation within the bag, without the need for vitrectomy. Six weeks post-surgery, the patient achieved 6/6 uncorrected visual acuity in the right eye and the IOL remained well-centered.

Discussion: Vitrectomy in young patients carries an increased risk of iatrogenic retinal breaks during the induction of posterior vitreous detachment. Capsular tension segments provide an effective solution for managing traumatic zonular dialysis and subluxated lenses, especially in young individuals. This technique allows for secure bag stabilization, minimizing the need for more invasive procedures like vitrectomy while preserving the capsular bag for IOL placement, yielding excellent visual outcomes and reduced complications.

V14.

COMBINED ANTERIOR AND POSTERIOR APPROACHES FOR THE SURGICAL MANAGEMENT OF A TRAUMATIC WHITE CATARACT IN THE BETTER-SEEING EYE OF A PATIENT

Nikolaos Mamas, James Bainbridge
Moorfields Eye Hospital, London, United Kingdom

Short Presentation: A 65-year-old homeless male patient with Pierre Robin syndrome was referred to the Vitreoretinal Service, six months after sustaining bilateral eye trauma in an assault.

His visual acuity at the time of presentation was limited to light perception in both eyes. On examination, the right eye exhibited a traumatic white cataract with a small pupil and 360-degree posterior synechiae. A B-scan ultrasound revealed a flat retina. The left eye showed a dislocated lens and a chronic, total retinal detachment with proliferative vitreoretinopathy (PVR C).

After surgical management of the left eye, his vision improved to 6/60. For the right eye, the decision was made to perform phacoemulsification combined with lensectomy using both anterior and pars plana approaches. The eye was left aphakic at this stage. Post-operatively, the patient's visual acuity improved from light perception to 6/9 with correction.

Discussion: Managing traumatic cataracts in patients with complex ocular trauma requires a multifaceted surgical approach. This surgical video highlights key surgical techniques used in such cases and illustrates the potential for significant visual recovery, even in eyes with extensive trauma. The successful outcome in this patient demonstrates the value of combining phacoemulsification with lensectomy and pars plana vitrectomy to manage complex cataract pathology.

V15.

MANAGEMENT OF POSTERIOR CAPSULE RUPTURE DURING POSTERIOR POLAR CATARACT SURGERY

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Short Presentation: A 54-year-old patient with a posterior polar cataract underwent phacoemulsification using a stepwise approach to minimize the risk of posterior capsule rupture (PCR). Surgery proceeded uneventfully until IOL implantation, when a PCR occurred with one haptic displaced into the vitreous cavity. The same IOL was retrieved and repositioned within the capsular bag, with the haptics oriented perpendicular to the capsular defect, ensuring stability. At 24-hour follow-up, the IOL was well centered, with no vitreous loss or retinal complications.

Discussion: Posterior polar cataract surgery is associated with a high risk of PCR, requiring a meticulous and adaptable surgical strategy. This video highlights a stepwise approach to posterior polar cataract surgery and intraoperative decision-making in the management of late PCR during IOL implantation.

V16.

MANUAL CAPSULORRHESIS IN WHITE CATARACTS

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Purpose: white cataracts may be challenging not only because of poor visibility of the capsule (which may be well addressed with trypan blue) but also because of the risk of uncontrolled extension of capsulorrhexis to the lens equator (argentinian flag sign). The purpose of this presentation is to provide a technique for the elimination of this risk.

Patients/Method: after trypan blue dyeing of the anterior capsule dispersive ocular viscoelastic device (OVD) is injected in the anterior chamber and a central mini capsulotomy is performed with 27G cystitome. In case of liquified cortex, it is removed with slow irrigation/aspiration. Additional dispersive OVD is injected and capsulorrhexis is initiated by grasping one of the capsule flaps created in the previous (mini capsulotomy) stage.

Results: Capsulorrhexis is performed at the desired size and the additional capsule flaps offer alternative sites to continue capsulorrhexis in case of centrifugal tendency of the initial one.

Conclusions: The initial central mini capsulotomy counterbalances the centrifugal forces of the capsule rhexis and helps to avoid uncontrolled extension of capsulorrhexis in intumescent white cataracts.

EP01.

MANAGEMENT OF TRAUMATIC IRIS PROLAPSE AFTER UNCOMPLICATED CATARACT SURGERY

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Short Presentation: A 75-year-old female patient presented at the emergency room, seven days after injuring her left eye, referring foreign body sensation. Slit-lamp examination revealed iris prolapse through the main incision of the cataract surgery not covered by conjunctival tissue. The patient underwent uncomplicated cataract surgery 2 months ago. Immediate measures were taken to close the wound in order to prevent endophthalmitis. Since there was no conjunctival tissue covering the prolapsed iris and the trauma occurred more than 36 hours ago, we didn't reposition the prolapsed tissue in order to prevent any infection. Postoperatively, antibiotic prophylaxis was administered and follow-ups confirmed the absence of endophthalmitis.

Discussion: Iris prolapse is a surgical emergency that should be attended to as soon as possible, in order to avoid infection and possibly loss of the eye. We present the surgical interventions to reposition the iris and repair the wound, alongside with medical management to prevent infection and reduce inflammation, in order to help achieve an excellent visual and anatomical restoration.

EP02.

EXPECTING THE UNEXPECTED: FROM CATARACT SURGERY TO THE NEUROSURGEON

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Short Presentation: a 63-year-old woman with no past medical history came to the clinic with the sole symptom of "blurry vision" for both eyes. An operation for an extensive posterior subcapsular cataract in the right eye was performed without complications. However, the visual acuity remained at 4/10 in the right eye. No pathology was detected in the cornea, the anterior and the posterior chambers. OCT of the macula did not reveal anything pathological either. Postoperative refraction was normal with a manifest refraction that did not exceed 4/10. It was then decided to perform an RNFL examination, which showed thinning of the optic fibers in both eyes.

Discussion: the differential diagnosis included the possibility of a previous episode of non-arteritic anterior ischemic optic neuropathy, which did not justify the appearance of the optic nerve, since it was not pale. Also, the patient did not have diabetes, arteriosclerosis, hypertension or sleep apnea. It was decided to perform visual fields, which revealed amphitemporal hemianopsia. The patient was asked to undergo a brain MRI and the following was found: a large pituitary macroadenoma, which compresses the optic chiasm and possibly the prechiasmatic segment of the optic nerves. The patient was referred to the neurosurgeon.

EP03.

ACUTE PUPILLARY BLOCK SECONDARY TO FIBRIN MEMBRANE FORMATION FOLLOWING EYHANCE IOL IMPLANTATION IN A DIABETIC PATIENT: SUCCESSFUL CONSERVATIVE MANAGEMENT

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Purpose: To report a case of fibrin membrane-induced pupillary block with acute intraocular pressure elevation following Eyhance enhanced monofocal IOL implantation in a diabetic patient, successfully managed with topical therapy alone.

Method: A 56-year-old female patient with diabetes mellitus and diabetic retinopathy underwent uneventful phacoemulsification with Eyhance (Johnson & Johnson Vision) IOL implantation in the left eye. On postoperative day 3, she presented with acute visual loss and ocular discomfort. Slit-lamp examination revealed best-corrected visual acuity of 0.05, dense fibrin membrane formation occluding the pupil, shallow anterior chamber with pupillary block configuration, and intraocular pressure of 45 mmHg measured by Goldmann applanation tonometry. Intensive topical treatment was initiated including prednisolone acetate 1% (Pred Forte) hourly with tapering, brimonidine 0.2% (Alphagan) twice daily, and dorzolamide/timolol fixed combination (Tomec) twice daily. The patient was followed closely over 4 weeks with serial intraocular pressure measurements and anterior segment examination.

Results: Complete resolution of the fibrin membrane was achieved with topical therapy alone within approximately 4 weeks. Best-corrected visual acuity improved from 0.05 to 1.0 (20/20), and intraocular pressure decreased from 45 mmHg to 15 mmHg. The anterior chamber depth normalized with complete resolution of the pupillary block. The Eyhance IOL remained well-centered in the capsular bag with no evidence of decentration or tilt. No surgical intervention including Nd:YAG laser iridotomy, anterior chamber washout, or intracameral tissue plasminogen activator was required throughout the treatment course. Anti-glaucoma medications were successfully discontinued after intraocular pressure normalization.

Conclusions: Fibrin membrane formation causing pupillary block is a rare but serious early complication following premium IOL implantation. Diabetic patients, even those undergoing uncomplicated cataract surgery, may be at increased risk due to compromised blood-aqueous barrier function. Despite severe initial presentation with intraocular pressure of 45 mmHg and visual acuity of 0.05, this case demonstrates that aggressive topical anti-inflammatory therapy combined with intraocular pressure-lowering agents can achieve complete resolution with full visual recovery without surgical intervention. Close postoperative monitoring during the first week is essential, particularly in diabetic patients, for early detection of this potentially sight-threatening complication.

EP04.

HABITUAL COFFEE AND TEA CONSUMPTION AND RISK OF CATARACT: A PROSPECTIVE COHORT STUDY FROM THE UK BIOBANK

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Purpose: To study the association of habitual coffee and tea consumption with the risk of cataract.

Method: This prospective cohort study enrolled UK Biobank participants between 2006 and 2010, and prospectively followed them up for cataract diagnosis. We examined the associations of self-reported intake of tea and coffee and the calculated combined caffeine intake, with the risk of incident cataract. Cox proportional hazards models were analyzed after adjusting for age, sex, race, diabetes, Townsend Index, income, education, smoking and alcohol status.

Results: A total of 444,787 UK Biobank participants aged from 37 to 73 years old who had no cataract at baseline were included. Coffee intake of 2-3 cups/day (HR 0.973, 95% CI 0.949-0.998) or tea intake of 4-6 cups/day (HR 0.962, 95% CI 0.934-0.990) or combination caffeine intake of 160.0-235.0 mg/day (HR 0.950, 95% CI 0.925-0.976) were linked with the lowest risk of incident cataract. Cox models with restricted cubic splines showed J-shaped associations of coffee, tea, and combined caffeine intake with the risk of cataract (all p for nonlinear <0.001).

Conclusions: Moderate habitual consumption of coffee and tea is associated with a lower risk of cataract. To maximize the protective effect against cataract, it is advisable to control total caffeine intake from coffee and tea within a range of 160.0-235.0 mg/day.

EP05.

CONSERVATIVE MANAGEMENT OF RETAINED LENS CORTEX IN ANTERIOR VITREOUS: SUCCESSFUL OUTCOME WITH TOPICAL CORTICOSTEROID THERAPY

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Short Presentation: To describe the successful conservative management of retained lens cortex displaced into the anterior vitreous during complicated cataract surgery in a patient with pseudoexfoliation syndrome.

A 65-year-old male with pseudoexfoliation syndrome presented with a best-corrected visual acuity of 0.1. During phacoemulsification, zonular dialysis involving three clock hours developed in the inferotemporal quadrant at the irrigation/aspiration stage. Despite careful capsular stabilization with an ophthalmic viscosurgical device, a cortical fragment approximately two-disc diameters in size prolapsed into the anterior vitreous through the zonular dehiscence. Following complete cortical cleanup from the capsular bag, a capsular tension ring was successfully implanted, and a single-piece intraocular lens was placed within the bag. Given the relatively small size of the retained fragment and its anterior location, a decision was made to pursue conservative management rather than immediate surgical intervention.

Intensive topical corticosteroid therapy was initiated with prednisolone acetate 1% administered hourly for five days, followed by six times daily with gradual tapering over six weeks. Transient intraocular pressure elevation to 22 mmHg was managed with short-term topical antiglaucomatous medication. On postoperative day one, visual acuity improved to 0.8 with mild corneal edema. Serial examinations demonstrated progressive resorption of the cortical material, with complete resolution observed at six weeks. At three-month follow-up, the patient achieved a visual acuity of 1.0, with clear vitreous cavity, normal intraocular pressure, and unremarkable funduscopy and optical coherence tomography findings. Endothelial cell density showed acceptable reduction from 2300 to 2180 cells/mm².

Discussion: This case demonstrates that small retained cortical fragments in the anterior vitreous can be successfully managed with intensive topical corticosteroid therapy alone. In carefully selected patients, conservative management may obviate the need for secondary surgical intervention such as pars plana vitrectomy, while achieving excellent visual and anatomical outcomes.

EP06.

BILATERAL RHEGMATOGENOUS RETINAL DETACHMENT FOLLOWING CATARACT SURGERY

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Short Presentation: We report a case of non-simultaneous bilateral rhegmatogenous retinal detachment (RRD) following uncomplicated sequential phacoemulsification cataract surgery. A 72-year-old highly myopic Indian man (axial length ~27 mm) underwent bilateral sequential cataract surgery performed 3 weeks apart by the same high-volume surgeon using a standardized technique. Preoperative dilated retinal examination revealed no retinal breaks, peripheral pathology, or posterior vitreous detachment (PVD) in either eye. Both surgeries were uneventful with excellent early postoperative visual outcomes. Three months after surgery, the patient developed an inferior macula-involving RRD in the first-operated eye, followed by a macula-off RRD in the fellow eye three weeks later, mirroring the surgical interval. Pars plana vitrectomy with retinopexy and gas tamponade was successfully performed in both eyes. Final visual acuity was logMAR 0.06 in the first eye and 0.82 in the fellow eye.

Discussion: Pseudophakic RRD is a recognized but uncommon complication of cataract surgery, with risk increased in male, myopic patients. This case is unusual due to the absence of preoperative PVD despite advanced age and high myopia, suggesting rapid postoperative vitreous separation as a possible mechanism. The near-synchronous bilateral occurrence highlights the potential risk of bilateral visual loss, particularly relevant when considering immediate sequential bilateral cataract surgery. Thorough preoperative vitreoretinal assessment and enhanced counselling are essential in high-risk patients. Preoperative macular OCT or ultra-widefield imaging may aid risk stratification and informed consent.

EP07.

WHITE CATARACT PHACOEMULSIFICATION: A CHALLENGING SURGICAL PROCEDURE

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Purpose: To present the intraoperative challenges encountered during white cataract extraction.

Method: Patients diagnosed with white cataract underwent extraction using the phacoemulsification technique. Surgical modifications and individualized intraoperative adjustments were applied as needed to address technical difficulties.

Results: Intraoperative challenges included reduced visibility, inadequate red reflex, limited depth perception, capsular fragility, and increased nuclear hardness. These cases required careful handling and, in some instances, the implementation of alternative techniques or intraoperative modifications depending on surgical progression.

Conclusions: Phacoemulsification of white cataract is associated with increased technical difficulty and a higher risk of intraoperative complications. However, when performed by experienced surgeons with appropriate modifications, the technique can be safely and effectively applied in the majority of cases.

EP08.

SEVERE CORNEAL NEUROTROPHIC ULCER FOLLOWING UNCOMPLICATED CATARACT SURGERY: A CASE REPORT

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Short Presentation: An 82-year-old female patient presented with bilateral advanced cataracts. Preoperative evaluation revealed severe dry eye disease, mild chronic blepharitis, subtle subepithelial corneal opacities and compromised corneal sensitivity. She underwent uneventful left phacoemulsification with intraocular lens implantation. Postoperatively, topical combined antibiotic and corticosteroid drops, nonsteroidal anti-inflammatory drops (NSAIDs) and non-preserved topical lubricant were prescribed. Her 1st postoperative day review was unremarkable. Seven days post-operatively she reported significant painless visual decline. The slit-lamp examination revealed corneal ulcer extending from the main surgical incision to the central cornea, with mild localized superficial corneal melt overlapping the incision and at the central cornea, and a positive Seidel test.

Corneal swabs were obtained for cultures. Topical moxifloxacin, autologous serum and oral doxycycline treatment were initiated. Topical NSAIDs and steroids were discontinued. The cultures were negative, and this was considered a neurotrophic ulcer. A therapeutic contact lens was also applied. Seidel test was negative within 2 days and a complete corneal healing was achieved within 3 weeks under treatment.

Discussion: Corneal neurotrophic ulceration is a potentially devastating complication that may occur after cataract surgery in high-risk patients. NSAID use combined with diabetes related neurotrophic changes and severe dry eye disease were considered major etiological factors.

EP09.

UNVEILING THE MYSTERY: STEVEN JOHNSON SYNDROME PRESENTING AS SUPERFICIAL KERATITIS

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Purpose: To describe a case of Steven Johnson Syndrome (SJS) diagnosed in a patient presenting with primary ocular findings.

Method: This is a case report of a patient presented at the Emergency Department. The data are collected from the patients' medical records.

Results: A 65-year-old female presented at the ED with a 2-day history of fever, general malaise and bilateral eye pain, conjunctival injection, decreased visual acuity and photophobia in the context of a 7-day history of tooth ache for which she was receiving amoxicillin p.os and lamotrigine for a known history of bipolar disorder. She was hospitalized at the Internal Medicine department for further investigation and treatment. The next day she suffered an angioedema and developed a blistering erythematous macular exanthema on her torso, face and neck. The patient was diagnosed with Steven Johnson Syndrome. Both amoxicillin and lamotrigine were terminated, she was started on IV fluids, cortisone and antihistamines IV, put on an antiallergic diet and steroid, antibiotic and lubricating eye drops. She was evaluated daily for debridement of the membranes.

Conclusions: Ophthalmologists may be the first physician to diagnose SJS, a life-threatening condition that can initially present with non-specific viral prodromal symptoms and ocular signs alone. This case emphasizes the importance of considering a patient's entire clinical history, especially when the presentation is atypical and the diagnosis is not obvious.

EP10.

POSTOPERATIVE HERPES SIMPLEX VIRUS KERATITIS AFTER CATARACT SURGERY

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Short Presentation: A 54-year-old male presented with painful, red and watering eye 3 weeks after cataract surgery. Best corrected visual acuity was 4/10. Slit lamp examination showed dendritic epithelial corneal ulcer, corneal oedema and mild anterior chamber reaction. Patient was diagnosed with herpes simplex keratitis, based on the signs and symptoms. The patient was treated with ganciclovir ophthalmic gel (0,15%) five times a day, tobramycin eye drops (0,3%) four times a day and artificial tears. The patient also received oral valaciclovir 500mg two times a day. After 1 week, patient's best corrected visual acuity was 7/10, corneal oedema and anterior chamber's reaction were reduced, while the corneal ulcer was improved. 7 days later, patient's best corrected visual acuity reached 10/10, the corneal ulcer was healed and the anterior chamber was normal.

Discussion: Our treatment of choice is topical ganciclovir gel (0,15%), with conservative monitoring in order to prevent local toxicity to the corneal epithelium, as well as oral valaciclovir, the use of which remains optional based on literature. Further research and clinical experience will hopefully prove the effectiveness of an oral only approach for the treatment of herpes simplex keratitis in the absence of the potentially toxic topical drugs.

EP11.

VIT A DEFICIENCY OCULOPATHY IN A PATIENT WITH NORMAL SERUM LEVELS OF VIT A

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Short Presentation: To present a case of Vit A deficiency (VAD) oculopathy in a patient with normal serum levels of Vit A. A 32 yo patient was examined in our outpatient department complaining of dry eyes and nyctalopia since several years. His medical history revealed Crohn disease and IGG 4 sclerotic cholangiopathy. Clinical examination revealed dry eyes, foamy spots (Bitot's spots) and fleck retinopathy. Serum levels of Vit A were within normal range (0.44 µg/L, 0.3 - 0.7). Color images, autofluorescence images and Optical Coherence Tomography (OCT) revealed fleck retinopathy consistent with VAD. Despite normal serum Vit A levels, a full-field Electroretinography (ffERG) was conducted and results confirmed the diagnosis.

Discussion: Clinical signs and symptoms are very important for correct diagnosis. Laboratory tests might be misleading in VAD. ERG is more reliable in diagnosing Vit A deficiency than serum levels, especially in patients with gastrointestinal disorders.

EP12.

FROM PLACIDO TO PENTACAM

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Purpose: To describe a case of early bilateral keratoconus in a young adult with 10/10 best corrected visual acuity (BCVA), where subtle Placido topography changes led to Pentacam confirmation of ectasia and influenced management.

Method: A 32 year old female attended for routine refractive assessment. BCVA was 10/10 in both eyes with mild myopic astigmatism and unremarkable slit lamp and fundus examination. Screening Placido topography showed asymmetric bow tie pattern with inferior steepening. Scheimpflug tomography (Pentacam) was performed to evaluate possible ectasia.

Results: In the right eye, axial curvature showed asymmetric inferior steepening with K readings around 42–48 D and regular but non orthogonal astigmatism. Thinnest pachymetry was approximately 470 µm with abnormal Belin/Ambrósio indices and altered CTSP/PTI profiles, consistent with early keratoconus. The left eye showed a similar, slightly less pronounced pattern with thinnest pachymetry just under 500 µm and elevated ectasia indices, confirming bilateral involvement. Despite preserved BCVA and minimal subjective symptoms, the tomography clearly differentiated true ectasia from simple with the rule astigmatism.

Conclusions: This case illustrates that minor irregularities on Placido topography in an asymptomatic patient with excellent BCVA may be the first sign of clinically significant ectasia. A stepwise approach "from Placido to Pentacam" allowed early diagnosis of bilateral keratoconus before visual loss. Structured follow up with predefined progression criteria was chosen over immediate cross linking, emphasizing the importance of combining screening topography with tomography based risk assessment in everyday anterior segment practice.

EP13.

TARGETING THE FEEDER VESSEL: A SIMPLE APPROACH TO HERPETIC CORNEAL NEOVASCULARIZATION

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Purpose: Corneal neovascularization is a common and potentially vision-threatening complication of herpetic keratitis, often leading to corneal opacity. The purpose of this study is to present the clinical effectiveness of feeder vessel cauterization at the limbal level.

Method: We report two cases of patients with a history of herpetic corneal disease who developed persistent superficial and deep corneal neovascularization associated with corneal opacity and visual impairment. Despite medical management, neovascularization remained active. Feeder vessel cauterization was performed at the limbus under topical anesthesia, targeting the identifiable supplying vessel.

Results: In both cases, significant regression of corneal neovascularization was observed within the first days following the procedure, accompanied by notable improvement in corneal clarity. No intraoperative or postoperative complications were recorded, and no reactivation of herpetic disease occurred during the follow-up period.

Conclusions: Feeder vessel cauterization at the limbus represents a simple, fast, targeted, and effective therapeutic approach for selected cases of herpetic corneal neovascularization, offering a valuable alternative when conservative treatment proves insufficient.

EP14.

CORNEAL PERFORATION DUE TO NEGLECTED OCULAR TRAUMA: DIAGNOSTIC AND THERAPEUTIC CHALLENGES

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Short Presentation: A 22-year-old man presented to the emergency department with left ocular pain and a history of ocular trauma 1.5 months earlier. He had been treated with hourly topical levofloxacin and was wearing a therapeutic contact lens. Best-corrected visual acuity in the left eye was counting fingers. Slit-lamp examination revealed extensive corneal changes, including Descemet's membrane folds, subepithelial and stromal opacities, a metallic intracorneal foreign body and marked corneal thinning. Clinical documentation included slit-lamp photography and anterior segment optical coherence tomography, which demonstrated the depth and extent of thinning and guided diagnostic assessment and therapeutic planning. The patient was admitted and commenced on intensive topical antibiotic therapy. On repeat examination, a positive Seidel test indicated imminent corneal perforation, prompting surgical removal of the foreign body with application of cyanoacrylate glue. Postoperatively, the anterior chamber was quiet, well-formed and watertight, with improvement in visual acuity to 3/10 without correction.

Discussion: Neglected intracorneal metallic foreign bodies pose diagnostic and therapeutic challenges, as they may progress insidiously, causing corneal thinning, necrosis and perforation. Careful clinical evaluation combined with anterior segment imaging is essential for early identification of impending perforation. Cyanoacrylate glue is an effective, minimally invasive option for sealing small perforations or severe thinning, preserving globe integrity.

EP15.

COMBINED USE OF INTRACORNEAL RING SEGMENTS AND SPECIALTY HYDROGEL CONTACT LENSES IN THE OPTICAL CORRECTION OF KERATOCONUS

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Short Presentation: A case of a keratoconus patient is presented, having steep K values, who has undergone intracorneal segment insertion. The short-term outcome is presented and the combined vision treatment with specialty hydrogel contact lens for keratoconus. Post-surgical visual acuity outcome is compared with that prior to surgery, as patient was using scleral lenses for vision restoration.

Discussion: The combination of surgical and non-surgical methods in keratoconus treatment can successfully implemented, to provide functional vision to the patients, almost immediately post-surgery. Hydrogel specialty lenses, in low modulus materials may provide vision, without interfering with the flattening, expected from corneal segments insertion. In selected cases visual acuity can be comparable to that of scleral lenses.

EP16.

PHOTOPHOBIA MANAGEMENT THROUGH LIGHT REFOCUSING USING SCLERAL LENSES IN CASE OF CORNEAL TRAUMA AND IRIS COLOBOMA

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Short Presentation: In cases of central corneal trauma, corneal suturing and iris deformation, the presence of photophobia is common. Main reasons are, the corneal irregularity, pupil deformation and corneal irregular astigmatism as well as optical media opacities. When functional vision is very low, the main concern remains the photophobia, causing visual disturbance to fellow eye. A transparent scleral lens has been fitted, to focus light as uniformly as possible, to reduce light scatter and improve light sensitivity.

Discussion: In cases of photophobia, a scleral lens can be used. This modality, focuses incoming light in a precise way, provide stable optics, correcting irregular astigmatism and reducing light scatter and at the same time not touching the cornea.

EP17.

SUPERFICIAL PUNCTATE KERATITIS OF THYGESON (SPKT) IN A MALE 44 YEARS OLD PATIENT. CASE REPORT.

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Short Presentation: This case is presented because SPKT is an uncommon epithelial keratopathy of unknown cause, it has no known association with other ocular or systemic diseases and is often misdiagnosed.

A male patient 44 y.o is complaining of foreign body sensation, mild photophobia and decreased vision of the right eye. At the slit lamp examination, there are coarse discrete stellate epithelial opacities. These focal opacities are elevated above the superficial epithelium and stain with fluorescein. There is also mild conjunctival hyperemia and visual acuity of 8/10 cc.

He reports a past history of 6 months ago with remissions and exacerbations on both eyes.

He was under treatment with topical corticosteroid, antibiotic and virgan, but exacerbations were noted in 2-3 weeks when treatment was discontinued.

Discussion: The clinical course and the signs and symptoms are characteristic of superficial punctate keratitis of Thygeson (SPKT). Differential diagnosis will be from epithelial herpetic keratitis, medicamentosa keratitis, staphylococcal blepharitis, keratoconjunctivitis sicca, exposure keratopathy, vernal keratitis, adenoviral keratitis. For treatment a mild corticosteroid (fluorometholone) 3 times a day was prescribed, that was slowly tapered, along with cyclosporine 0,5% 2 times a day to reduce exacerbation.

EP18.

EMERGENCY PENETRATING KERATOPLASTY IN A PERFORATED CORNEAL ULCER WITH CHOROIDAL DETACHMENT

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Short Presentation: An 89-year-old woman presented with decreased visual acuity in the left eye (LE) for five days and in the right eye (RE) for several months. She had previously undergone cataract surgery in both eyes and had no history of trauma. Best-corrected visual acuity was hand motion in both eyes. Slit-lamp examination revealed a corneal ulcer in the RE with epithelial defect, stromal edema and stromal vascularization. The LE showed a large perforated corneal ulcer (8 × 7.5 mm) with iris prolapse, flat anterior chamber, peripheral anterior synechiae and hypotony. Gentle B-scan ultrasonography revealed choroidal detachment in the LE. Corneal samples were obtained for cultures, and extensive laboratory testing for infectious, autoimmune and rheumatologic causes was performed. Empiric broad-spectrum topical antibiotics and oral antiviral therapy were initiated due to strong suspicion of herpetic keratitis. The patient underwent urgent penetrating keratoplasty to seal the perforation. Two days post-operatively the PK graft was clear and stable, the anterior chamber was deep and the choroidal detachment had completely resolved.

Discussion: Perforated corneal ulcers complicated by choroidal detachment are vision-threatening emergencies requiring immediate intervention. Although technically demanding, therapeutic penetrating keratoplasty can successfully preserve globe integrity and restore functional vision.

EP19.

COMBINATION OF CONSERVATIVE THERAPY AND CORNEAL CXL FOR THE MANAGEMENT OF PSEUDOMONAS CORNEAL ULCER WITH MELT IN A PREGNANT PATIENT

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Short Presentation: A 34-year-old woman, 19 weeks pregnant and a contact lens user, presented to the emergency department of our hospital with a two-day history of painful reduction in visual acuity. Clinical examination revealed a paracentral corneal ulcer measuring 5.0 × 3.5 mm, associated with stromal infiltration, marked anterior chamber reaction, and a 0.5 mm hypopyon. After obtaining corneal scrapings for microbiological cultures and PCR analysis, in collaboration with obstetricians–gynecologists, intensive topical treatment with amikacin, vancomycin, and atropine was initiated, along with systemic administration of ceftazidime. Corneal scraping culture identified *Pseudomonas aeruginosa* sensitive to amikacin and tobramycin. The clinical course showed initial improvement with resolution of the hypopyon and anterior chamber inflammation; however, persistent corneal melting and ulcer, and stromal infiltration were observed. For this reason, corneal collagen cross-linking (CXL) using the Dresden protocol was performed. Following the procedure, treatment was continued on an outpatient basis with topical tobramycin. A gradual resolution of the corneal melt was observed.

Discussion: CXL proved to be an effective adjunctive therapeutic option for persistent bacterial keratitis during pregnancy. The residual corneal scar, associated with reduced visual acuity (2/10), is planned to be managed at a later stage with keratoplasty.

EP20.

PERSISTENT CORNEAL EPITHELIAL DEFECT AFTER PHACOEMULSIFICATION: A CASE REPORT OF NEUROTROPHIC KERATITIS

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Short Presentation: A 74-year-old male underwent uncomplicated phacoemulsification in his right eye, with a history notable only for prior keratitis in the fellow eye. On the first postoperative day, an epithelial defect with mild intraocular inflammation was observed. Initial management included discontinuation of potentially toxic topical medications, intensive lubrication, topical antibiotics, corticosteroids and autologous serum drops. Due to lack of improvement and documented reduction in corneal sensation, neurotrophic keratitis was suspected. Management was escalated stepwise: switching to preservative-free drops, bandage contact lens placement, systemic tetracyclines, and antivirals. Lack of clinical response prompted discontinuation of antivirals and initiation of topical insulin drops and vitamin A ointment, along with a moisture chamber eye patch. Immunological workup was unremarkable. Gradual epithelial healing occurred over several weeks, resulting in complete closure of the defect.

Discussion: This case emphasizes the importance of evaluating corneal sensation in unexplained persistent epithelial defects post-ocular surgery. Early recognition and tailored therapy are essential to prevent progression, corneal perforation, and permanent visual loss.

EP21.

VISUAL RESTORATION AFTER A PENETRATING OCULAR INJURY

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Short Presentation: We report a case of full-thickness penetrating corneal injury caused by direct impact of a falling walnut. The patient presented within two hours post-trauma with iris prolapses acting as a natural wound tamponade. Immediate surgery was performed with iris repositioning and corneal suturing. On the fourth day, a fundoscopic examination was performed, which confirmed that other intraocular structures weren't affected. Initial recovery was uneventful. At the fifth postoperative month, the suture removal began. Unfortunately, a second trauma with foreign object occurred at the same site, resulting in infection, severe inflammation, and significant visual loss.

Discussion: The immediate topical antibiotic and corticosteroid treatment led to complete resolution of inflammation within three weeks. Final visual acuity after complete suture removal reached 9/10. This case highlights the potential for excellent visual recovery following severe ocular trauma when timely and appropriate management is applied.

EP22.

TOPICAL INSULIN USE IN A RESISTANT CORNEAL ULCER IN A PATIENT WITH NEUROTROPHIC KERATOPATHY: CASE REPORT

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Short Presentation: Persistent corneal ulcers are a significant therapeutic challenge, particularly in cases with a history of ocular herpes zoster. Topical insulin administration has been suggested as an alternative treatment option to promote corneal epithelialization.

A 47-year-old man with a history of ocular herpes zoster three months prior to presenting, attended our emergency department with ocular pain, redness and decreased visual acuity in the left eye. Best-corrected visual acuity was 1/10, and slit lamp examination revealed a large eccentric neurotrophic corneal ulcer with stromal thinning and haziness. Anterior segment examination revealed posterior iris synechiae without signs of active inflammation. Conservative treatment with preservative-free artificial tears and topical antimicrobial therapy was initiated. At follow-up, no clinical improvement was noted, and a therapeutic contact lens was applied. Due to the persistent epithelial defect, autologous serum eye drops were subsequently introduced. One week later, the patient returned with resolution of symptoms and slit-lamp examination demonstrated complete corneal epithelialization. Two months later, upon returning from a journey abroad, the patient re-presented with recurrence of pain, redness, and decreased vision. He gave a history of continuous irritation whilst away and the slit-lamp examination revealed once again a large eccentric corneal ulcer with signs of active inflammation, including perilimbal injection and anterior chamber flare. Treatment with autologous serum eye drops was reinitiated and oral valacyclovir (1000 mg three times daily) was prescribed with a tapering maintenance dose.

At one-week follow-up, marked clinical improvement was observed. However, a residual corneal epithelial defect persisted despite reduction in ulcer size. After three weeks of incomplete healing, compounded topical insulin eye drops (Actrapid 11U/ml) diluted in artificial tears at a dosage of 1 drop 4 times a day for 6 weeks was initiated. One week after initiation, the patient reported significant pain relief and slit-lamp examination confirmed complete epithelial closure of the corneal ulcer. The corneal surface remained stable, with sustained epithelial integrity observed up to five weeks after treatment initiation. He remains on prophylactic valacyclovir 1000mg daily and preservative free artificial tears.

Discussion: Topical insulin administration has emerged as an effective and safe treatment option in recurrent, treatment resistant neurotrophic corneal ulcers, as our case highlights.

EP23.

FIRST REPORT OF TOXIC ANTERIOR SEGMENT SYNDROME IN TWO PATIENTS RECEIVING DSAEK GRAFTS FROM THE SAME DONOR

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Short Presentation: Purpose: To report a unique case series of toxic anterior segment syndrome (TASS) following a Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) and a triple procedure (DSAEK, phacoemulsification and intraocular lens implantation) in two patients who received grafts from the same donor.

Method: Two patients with different corneal pathologies underwent distinct surgeries (DSAEK vs. triple procedure). The grafts originated from the same 62-year-old female donor. Both surgeries were uneventful, performed with separate instruments in an operating room meticulously prepared for each case. On the first postoperative day, both patients developed TASS, presenting with severe corneal edema, fibrinous membranes, and marked anterior chamber cellular reaction.

Results: The patients were treated with topical corticosteroid and cycloplegic agents. The anterior chamber reaction gradually improved, allowing treatment tapering and ultimately leading to complete resolution. The different surgical procedures and strict intraoperative precautions suggest that the likely cause was related to lamellar graft preparation and handling at the eye bank rather than perioperative factors.

Conclusions: These cases represent an unprecedented observation of TASS occurring in two recipients of grafts from the same donor, underscoring the importance of careful tissue processing and monitoring in eye banks and improving our understanding of risk factors for post-DSAEK TASS.

EP24.

GLOBE RUPTURE IN PSEUDOPHACIC PATIENT WITH IRIS LOSS

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Purpose: to present a case with open globe trauma, iris loss and intraocular lens subluxation.

Patient/methodo: a 73 yo male patient suffered an open eye trauma after pumping on a car. The patient was examined in the A&E department 4 hours later. He presented a corneal rupture, total iris loss and intraocular lens subluxation through the corneal wound. The patient underwent immediate surgery with IOL repositioning and fixation with 10-0 nylon transcleral sutures and cornea was repaired with 10-0 nylon sutures.

Results: 10 days later the patient presented with persisting vitreous hemorrhage and he underwent vitrectomy 15 days later. After vitrectomy the patient presented high intraocular pressure and underwent trabeculectomy with antimetabolites (MMC). His visual acuity is 0.4 with remarkable photophobia. Treatment for photophobia is under consideration as multiple eye surgery has to be taken into account.

Conclusions: eye restoration after open trauma presents many challenges. Possible solution for photophobia after traumatic iris loss should include corneal intervention (tattoo)

EP25.

FIVE AUTHORS, ONE WORK, ONE INSPIRATION: OPHTHALMOLOGY IN THE 19TH CENTURY WITH THE CONTRIBUTIONS OF ALFRED von GRAEFE, THEODOR SAEMISCH, J. HIRSCHBERG, G. KOSTOMIRIS AND THE NOTES OF A & K GAVRIILIDOU

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Purpose: The present work constitutes a unique collection: a trilingual manual of Ophthalmology with part of the collective work 'Handbuch Der Gesamten Augenhniheilkunde' published in 1899 by Alfred von Graefe, Theodor Saemisch, bound with the supplements of the Greek authors, G. Kostomiris, the French original manuscripts and publications of A. & K. Gavriilidou as well as indirectly of the Greek physicians (through Hirschberg) from antiquity and the Roman era to Byzantium.

Method: This original work is a trilingual collection of works that unfolds the knowledge of pathology and surgery of the eye up to that time. The presentation of this valuable manual confirms the perception that exists that Greek Ophthalmology followed and participated in the evolution of our science from the beginning of its great progress.

Results: The first part consists of the Graefe-Saemisch manual: HANDBUCH DER GESAMTEN AUGENHEILKUNDE with texts by many leading ophthalmologists of the 19th century (30) with handwritten and printed inserts in Greek and French by A. Gabrielides and follows a section by J. Hirschberg with also handwritten notes. This is followed by a rich part of the first printed manual of Surgery and Ophthalmology (1540) by Georg Bartisch 'Ophthalmodouleia' with wonderful woodcuts of ophthalmological, cranial and other operations. Finally, a manual of Ophthalmology and Otology of the Ancients, by Georgios Kostomiris (1887) is incorporated.

Conclusions: Ophthalmology at the end of the 19th century had a rapid development that laid the foundations for modern medical practice. The Greek authors of the manual transferred the knowledge and experience they acquired in the well-known scientific centers of Europe (Paris, London, Vienna, Prague, Berlin) to our country with enthusiasm and optimism for the future of Ophthalmology.

EP26.

A HEADLESS FRENCH-SPEAKING HANDBOOK OF EYE SURGERY OF THE 19TH-20TH CENTURY AND ITS CONTRIBUTION TO FRENCH-SPEAKING AND MORE, OPHTHALMOLOGISTS OF THE SAME PERIOD

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Purpose: The French manual 'TRAITE THEORIQUE ET PRATIQUE DES MALADIES DES YEUX' is presented in this work. Due to the loss of the cover and the first page, there is no exact information about the time of publication. Furthermore, its historical value is great. It consists of approximately 440 pages.

Method: The book is written in French with rich illustrations that explain the steps of the surgical procedure and the necessary preparation of surgical instruments.

Results: The book begins with a preface enriched with descriptions of tools and devices for patient preparation, procedures and preparations of the operating rooms. It includes images of the operating rooms with surgeons at work, tools, anatomy and pathology of the eye. Two large parts follows. The first part describes techniques for ophthalmic surgery and the second describes procedures on the accessory organs of the eye.

Conclusions: This work is a complete textbook and compendium of Ophthalmic Surgery of its time, that contributed to the scientific training of many ophthalmologists at the turn of the 19th century. The wealth of knowledge it provides to students and young doctors is inexhaustible and impressive and it was a great opportunity to showcase it at the 40th Congress of the Hellenic Society of Intraocular and Refractive Surgery.

EP27.

ESTIMATING 513 NM FEMTOSECOND LASER ABLATION DEPTH ON PMMA INTRAOCULAR LENSES THROUGH OCT IMAGING

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Abstract: For the first time, precise surface sculpting of PMMA (Polymethyl methacrylate) was achieved using ultrashort femtosecond pulses in the visible spectrum ($\lambda = 513$ nm). This process enabled controlled depth modification with an accuracy of 10 μm , employing Optical Coherence Tomography (OCT) for in situ assessment of morphology and processing depth. This approach introduces the capability for accurate, non-thermal surface modification of biopolymeric materials with spatial resolution on the order of a few micrometers. The ability to perform micro- and nano-sculpting of PMMA opens new possibilities in fields such as:

- Cardiology
- Orthopedics
- Ophthalmology

In ophthalmology, when combined with femtosecond micromachining, it becomes feasible to:

- Map refractive errors following intraocular lens (IOL) processing
- Improve optical properties through targeted corrections
- Predict optical performance prior to implantation
- Perform topographic and tomographic analysis of customized IOLs
- Accurately capture corneal maps and higher-order aberrations up to the 5th order (Zernike polynomials) in PMMA lenses
- Analyze thickness and refractive index with micrometer precision

EP28.

IMPACT OF ILLUMINANCE ON DISTANCE VISUAL ACUITY IN PSEUDOPHAKIC EYES WITH MONOFOCAL VERSUS EDOF IOLS

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Purpose: To introduce a contemporary methodology for updating lighting standards addressing pseudophakic patients implanted with monofocal and extended depth-of-focus (EDOF) intraocular lenses (IOLs).

Method: In a study group of patients implanted with the EDof IOL Vivity (SG) and in a control group of patients implanted with the monofocal IOL Clareon (CG), uncorrected distance visual acuity (UDVA) was measured at illuminance of 550 lx (optimal UDVA). Following dark adaptation, the illuminance was gradually increased from 10 lx until the patients reached their optimal UDVA. This measured illuminance at this point was defined as the minimum required illuminance level (MRIL). MRIL and UDVA for illuminance levels between 10 and 550 lx in SG were compared with the corresponding values in CG.

Results: In both groups, UDVA was significantly higher at an illuminance of 550 lx compared to 10 lx ($p < 0.05$). At optimal illuminance (550 lx), SG demonstrated superior UDVA compared to CG, whereas no significant difference between groups was observed under low illuminance conditions (10 lx). Analysis of UDVA across intermediate illuminance levels revealed a lighting-dependent visual performance in both groups. Preliminary evaluation of the MRIL suggests a differential illuminance demand between IOL types to achieve optimal UDVA, indicating a potential influence of IOL optical design on visual performance under varying lighting conditions.

Conclusions: The proposed methodology highlights the impact of IOL optical design on visual performance under varying lighting conditions, supporting the need to adapt lighting standards to IOL technology.

EP29.

COMPARISON OF VISUAL PERFORMANCE BETWEEN IMAGE-GUIDED AND NON-IMAGE-GUIDED IMPLANTATION OF AN X-WAVE EXTENDED DEPTH-OF-FOCUS IOL

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¹Department of Ophthalmology, University Hospital of Alexandroupolis, Alexandroupolis, Greece, Comparison of Visual Performance between Image-Guided and Non-Image-Guided Implantation of an X-WAVE Extended Depth-of-Focus IOL

Short Presentation: Purpose: To compare the postoperative visual performance between image-guided and non-image-guided implantation of an X-WAVE Extended Depth-of-Focus (xEDOF) intraocular lens (IOL).

Method: This is a prospective, observational, comparative study. Cataract patients populated two study groups: the Image-Guided (IMG) group, who received the xEDOF Vivity IOL using the Image-Guided System VERION, and the non-Image-Guided (nIMG) group, who received the xEDOF Vivity IOL without using an Image-Guided System. Postoperative monocular uncorrected visual acuity (UVA) was measured using the letters mode of the Democritus Digital Acuity & Reading Test for Visual Curve (DDARTVC) TV application at 25.5, 28, 33, 40, 50, 66, 100, 200, and 300cm distances. Visual curves were plotted, and areas of the curves (AoCs) were also calculated through DDARTVC. All patients completed the NEI-VFQ-25 questionnaire. Total NEI-VFQ scores and sub-scores for near and distance activities were calculated for all participants. IOL centration was evaluated by measuring the distance between the visual axis and the center of the Vivity IOL central ring.

Results: Forty eyes were included (IMG: 20, nIMG: 20). The IMG group presents better visual performance in near distances (25.5, 28, 33, 40cm) with clinical significance. Analysis of the visual curves showed no significant difference between the two groups regarding curve flattening and AoC. Assessment of patient satisfaction showed no significant difference between the two groups regarding total, near, and distance NEI-VFQ scores.

Conclusions: Both surgical options provide optimal outcomes. However, image-guided xEDOF implantation seems to present better visual performance at near distances.

EP30.

CRITICAL VISUAL ACUITY (CVA): A NOVEL CLINICAL PARAMETER FOR ENHANCED VISUAL CAPACITY ASSESSMENT

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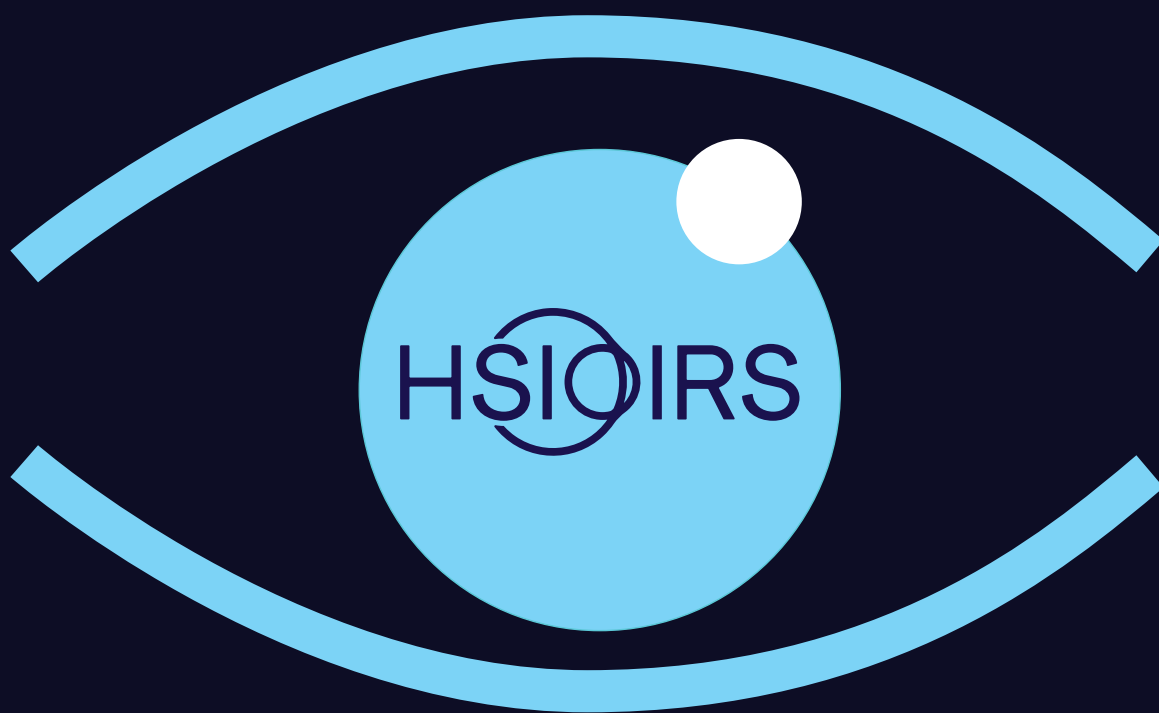
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Purpose: To develop and validate a new clinical parameter for the assessment of distance visual capacity taking into account reading speed: the Critical Visual Acuity (CVA).

Method: Participants populated two study groups: Control Group (CG) and Patients Group (PG). For all participants, monocular and binocular best spectacle-corrected distance visual acuity (BSCDVA) and critical visual acuity (CVA) at 300 cm were measured using the Democritus Digital Acuity & Reading Test (DDART) web-based digital chart. Furthermore, subjective evaluation of visual capacity was assessed using the NEI-VFQ-25 score. Receiver operating characteristic (ROC) curve analysis was used to evaluate the CVA's diagnostic ability. According to the NEI-VFQ-25 score, participants were classified as impaired or non-impaired visual capacity subjects.

Results: 370 participants were recruited. The diagnostic ability of CVA in comparison with BSCDVA was evaluated using receiver operating characteristic (ROC) curve analysis. The CVA's area under the ROC curve (AUC) was significantly higher than the BSCDVA's AUC. CVA's sensitivity and specificity values was also significantly higher than the corresponding values of VA.

Conclusions: The assessment of visual capacity is a really complicated procedure. The existing clinical parameter (VA) does not take into consideration important clinical factors, such as reading speed. CVA is a new clinical parameter that evaluates visual capacity more accurately in comparison with VA.



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