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Anterior Segment

CHALLENGES IN MANAGING A PERFORATING TRAUMA TO THE EYE: A CASE OF PHACOEMULSIFICATION AND CORNEAL LACERATION REPAIR IN A 33-YEAR-OLD MALE PATIENT

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PURPOSE: To present the management of an acutely traumatized eye of a 33-year-old male patient.

METHODS: The patient presented to the emergency department complaining of acute trauma to the OD by means of a metal rod. Vision was hand motion and anterior chamber was shallow. A perforating trauma was found, with large full thickness laceration of the cornea with positive seidel sign at the 11th until the 9th hour temporally. The anterior capsule was also lacerated so lens particles had gone into the anterior chamber. The lens was opacified and a fundus examination was not possible to be performed. B scan did not reveal retinal detachment and CT scan did not reveal intraocular foreign body. The patient was admitted to the operating room where a successful phacoemulsification procedure took place.

RESULTS: The surgery was very challenging as an accepted ocular consistency by means of viscoelastic agents was difficult to be achieved. Capsulorhexis was also a challenge as it was performed in two steps at the upper and lower semicircles of the anterior capsule. During the surgery an intact posterior capsule was revealed. As a result, a one-piece IOL was placed in the bag. The cornea trauma was sutured with 3 nylon 10.0 sutures.

CONCLUSION: The postoperative period was uneventful, and the patient slowly recovered vision at 8/10.

Financial Disclosure: No

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Anterior Segment

UNUSUAL PRESENTATION OF A BILATERAL ACUTE IRIS PATHOLOGY

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Purpose :
Bilateral acute depigmentation of the iris (BADI) and bilateral acute iris transillumination (BAIT) are clinical entities characterized by an acute pigment dispersion from the iris. Fluoroquinolone antibiotics intake was described as a trigger for these pathologies.
We report an overlapping case of BADI and BAIT with an atypical clinical presentation.

Methods :
We present a case of a 69-year-old patient referred to the emergency department at CHU St-Pierre for redness, pain and photophobia. The patient reported taking fluoroquinolone antibiotics. Symptoms started a week after medication intake. Slit-lamp examination revealed diffuse bullous keratopathy, clear cornea, synechia and the presence of pigmented cells in the anterior chamber. Iridal transillumination unveiled bilateral iris depigmentation. Intraocular pressure measurement was unfeasible via applanation, yet bimanual palpation indicated elevated pressure (35mmHg). A treatment with Medrol, Tobradex, Cyclogyl and Diamox was started, along with Acyclovir as a precautionary measure.
The patient had no further complications. A one-year follow-up showed persistent iris depigmentation with large areas of transilluminable diffuse atrophy with satisfactory evolution.

Results :
The case showed typical symptoms and benign evolution resembling BADI but the identification of transilluminable depigmented zones typical of BAIT, along with synechiae and peripupillary iris involvement, indicates a potential overlap between the two conditions. The early occurrence of bullous keratopathy additionally highlights the unusual nature of this case.

Conclusion :
While both pathologies commonly manifest sudden-onset symptomatic pigment dispersion, this case displays an atypical presentation. It emphasizes the importance of exercising caution when prescribing fluoroquinolone antibiotics to individuals with a history of BADI/BAIT.

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CHOOSING ULTRA-THIN DSAEK OVER DMEK TO REVITALIZE VISION OF AN ELDERLY PATIENT WITH GRAFT FAILURE

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Purpose: to present a case of re-DSAEK due to failure of the existing graft, using an ultra thin new graft in an 81 year old female patient.

Methods: The case is about an elderly patient with clear medical history. Her ophthalmological history is consistent with glaucoma under treatment and DSAEK procedure in the left eye (OS) 10 years prior. She was under constant observation and failure of the graft was noted. A second DSAEK procedure was performed by using an ultra thin graft of 41 μm. The postoperative course was uneventful and the patient recovered 20/25 vision.

Results: The surgery was very challenging, as the management of an ultra thin graft requires special maneuvers in order not to injure the graft and loose endothelial cells.

Conclusions: Using ultra thin grafts offers a better visual outcome for the patient by reducing the hypermetropic shift than classic DSAEK. Ultra thin DSEAK shows a better safety profile than DMEK as rebubbling rates are lower. Moreover, graft preparation failure happens more often in DMEK. Post-operative endothelial cells and visual rehabilitation is similar to DMEK, upon reviewing the literature.

Financial Disclosure: No

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Anterior Segment

RESHAPING THE EYE: REPAIR OF A PERFORATING CORNEAL INJURY WITH CONCOMITANT RETINAL DETACHMENT.

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PURPOSE: To present the management of a trauma to the left eye (OS) with a perforating trauma in the cornea and concomitant retinal detachment in a 50-year-old male patient.

METHODS: The case involves a 50-year-old male patient who presented to the emergency department with acute OS trauma from a plastic object. Upon biomicroscopy, a wound in the cornea was revealed, extending from the 10 to the 2 o`clock position, with irregular and lace-like margins. Additionally, there was iris proptosis along the entire length of the incision and a positive Seidel sign. The anterior chamber was shallow, and full of blood. A B-scan ultrasound was performed revealing a retinal detachment.

RESULTS: After performing computed tomography of the orbit-brain and excluding the intraocular foreign body, the patient was admitted to the operating room for the repair of the injury. Moreover, during the investigation of the injury, a wound in the sclera was revealed at the 1st and 11th o' clock positions, where suturing was performed. The postoperative state was with no complications. The retinal detachment was addressed later, concurrently with the traumatic cataract, through vitrectomy, laser (360 degrees), and silicone oil injection. No additional intraocular foreign body was detected intravitreally.

RESULTS: The management of this complex trauma required special attention, especially when suturing, due to its irregular and missing margins. Moreover, the intervention by a posterior segment surgeon was imperative not only for reattaching the retinal detachment but also for the intraoperative exclusion of a non-radiopaque intraocular foreign body.

Financial Disclosure: No

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Anterior Segment

SINGLE SURGERY ANTERIOR CHAMBER RECONSTRUCTION WITH CARLEVALE LENS IMPLANTATION AND HUMANOPTICS IRIS SCLERAL FIXATION

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Purpose: The purpose of this case report is to present a successful reconstruction of the anterior chamber in a patient who suffered from traumatic aphakia and aniridia following an open globe injury.

Methods: In November 2022, a 53-year-old male patient underwent corneal suture, pars plana vitrectomy (PPV) and lensectomy to address the damage caused by the injury. A year after the initial surgery, a 25G PPV with internal limiting membrane (ILM) peeling was performed, followed by Carlevale Lens implantation and Humanoptics artificial iris scleral fixation, both fixed in the same pockets.

Results: Three months after the surgery, the patient`s best-corrected visual acuity was 6/10 with +1 cyl a150, and the intraocular pressure was 15 mmHg. The anterior Chamber was unremarkable, except for the previous corneal scar. The patient was satisfied with the aesthetic results, and there were no complications.

Conclusions: Double implantation of Carlevale lens and Humanoptics iris prostheses at different distances from the limbus, but in the same scleral pockets, seems to be an effective method for the optimal aesthetic, functional and anatomical restoration of the anterior chamber, with a single surgery and a low risk of complications. While the implantation of the iris and IOL at the same time has been reported in many different ways, this approach offers a promising solution for anterior chamber reconstruction.

Financial Disclosure: No.

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Anterior Segment

TOPICAL INTERFERON ALPHA-2B AS FIRST LINE TREATMENT IN CONJUNCTIVAL INTRAEPITHELIAL NEOPLASIA (CIN)

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Purpose

To describe a clinical case of an 82-year-old male with a suspected CIN that received sole treatment with topical interferon alpha-2b and to review current trends in management of conjunctival neoplasia.

Methods

A case study with literature search in PubMed was performed. Inclusion criteria were any relevant articles published until January 2024, with preference given to papers published in the last decade.

Results

An 82-year-old male with a clinical diagnosis of CIN involving the upper third of the cornea and the upper 180º of the limbus received sole treatment with topical interferon alpha-2b. The size of the lesion decreased rapidly in a 4-month period, with good tolerance and no adverse effects. Induced astigmatism disappeared almost completely.

There is consensus among researchers that the diagnosis is clinical with no strict need for an excisional biopsy. However, classical treatment involves a surgical resection and cryotherapy, with high rates of recurrence and side effects such as loss of corneal transparency due to stem cell removal during resection. Thus, topical chemotherapy with agents such as topical interferon alpha-2b has been used as an alternative to surgery with good safety, efficacy and cost-effectiveness results.

Conclusions

Surgical resection of conjunctival neoplastic lesions involves high rates of recurrence and morbidity. The use of topical interferon alpha-2b in the treatment of primary cases of CIN could be considered as the first line option.

Financial disclosure: None

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Anterior Segment

ORBITAL PSEUDOTUMOR: A CASE REPORT

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Purpose and methods. To report a clinical case of unilateral orbital pseudotumor.

Results. A 76-year-old female presented to the ophthalmology clinic reporting a one-month history of progressive symptoms in her right eye- pain, swelling, erythema of the upper eyelid. No ocular trauma or surgeries, no other recent illnesses. However, in January 2023, she was hospitalized in neurological ward due to unknown ethiology left-sided facial neuropathy with partial paralysis and lagophthalmus. Treatment involved the administration of corticosteroids. Visual acuity in the right eye was 0.7. Examination- eyelid edema, erythema, chemosis, superficial injection. Equal and reactive pupils, with no relative afferent pupillary defect. Full extraocular motility in all directions of gaze. Normal intraocular pressure. No remarkable findings in the anterior segment and fundus examination. Magnetic resonance imaging of the orbits with contrast revealed a thickened lacrimal gland on the right side, diffuse enhancement of orbital soft tissues with thickening of extraocular muscles (especially the lateral rectus and superior rectus), infiltration of orbital fat. Blood tests showed - the erythrocyte sedimentation rate 26 mm/hr; the C-reactive protein 5.16 mg/L; ANA homogenous- positive. The tissue biopsy of the lacrimal gland was done- normal lacrimal gland tissue, stromal lymphocytic infiltration, the presence of lymphoid tissue in a follicular pattern.

Treatment- intravenous Methylprednisone 1g for 3 days. After the first dose patient reported a significant reduction in pain, swelling, and erythema, improvement of visual acuidity.

Conclusion. Based on the clinical presentation, imaging findings and laboratory results, the patient was diagnosed with orbital pseudotumor.

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Anterior Segment

CORRELATION OF COST AND SAFETY OF CORNEAL GRAFTS` TYPES

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Purpose:

Corneal diseases are the fourth most common cause of blindness worldwide. In the majority of these diseases, the reduction of vision is reversible and can be restored to a very large extent by replacing the cornea, through transplantation.

In Greece, due to the lack of organized eye banks as well as donors, the grafts intended for corneal transplantation usually come from eye banks abroad.

This study focuses on the dynamics of price versus value in the decision-making process for the procurement of corneal grafts, ultimately studying the safety that the procured grafts provide to patients.

Methods:

The recorded data refer to 267 patients, which underwent totally 301 transplant operations during the years 2020-2023 at the transplant unit of Athens General Hospital "Georgios Gennimatas".

Results:

Problem with the graft faced 13.9% of the patients, with the amniotic membrane 1.5% (in the total number of surgical operations) and in both eyes 4.5%. Reoperation was needed in 14% of the cases and 7.6% of the cases were surgeries that happened due to graft rejection or non-functioning graft from surgery performed at another hospital or clinic. Mean cost was 3167 euro (SD=960.3 euro).

Conclusions:

The aim of the study is to draw useful conclusions about the effectiveness of the interventions, through the correlation of cost and safety of the grafts that are approved and finally used in corneal transplants, as well as the submission of proposals to improve the procedures and provide benefit.

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Anterior Segment

GRAVES ORBITOPATHY WITH OCULAR SURFACE DISEASE

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INTRODUCTION

Graves` orbitopathy, also known as thyroid eye disease (TED), is an autoimmune condition primarily affecting the thyroid gland and the orbital tissues.

CASE PRESENTATION

A 59-year-old male, a known smoker with a previous hyperthyroidism diagnosis of unknown treatment status, presented to our emergency clinic with complaints of ocular discomfort in both eyes. The right eye had proptosis, chemosis and severe punctate keratopathy after staining. The patient`s history included a lack of consistent medical follow-up for his hyperthyroidism. Ocular examination revealed significant proptosis in the right eye, with associated lid retraction and lagophthalmos. Slit-lamp examination showed extensive punctate keratopathy in the right eye, indicating severe ocular surface disease. In the left eye aside lower punctate staining, it was unremarkable.

Based on clinical presentation, history and the European Group of Graves` Orbitopathy (EUGOGO) severity classification, Graves` orbitopathy was confirmed as active. Smoking cessation was strongly advised. In order to help preventing further exacerbation the patient was referred to an endocrinologist for prompt management and stabilization of the thyroid function. We suggested restarting the therapeutic protocol of EUGOGO for severe TED.

Surgical evaluation was also planned to address proptosis and lid retraction if conservative measures failed to alleviate symptoms.

DISCUSSION

A fundamental aspect of managing Graves` orbitopathy, as observed in this case, is the need for a multidisciplinary approach.

CONCLUSION

The necessity for a holistic and a comprehensive approach that includes endocrinology and ophthalmology collaboration is essential to ensure the best possible outcome for patients with this challenging condition.

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Anterior Segment

A NEW IOL HANDLING DEVICE FOR UNIVERSAL IOL DOUBLE FLANGED SCLERAL FIXATION

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Purpose: Failure of the symmetry of the suture passing points in the IOL` s optic, represents one of the pitfalls of the double-flanged scleral fixation technique that may lead to IOL tilting and induced postoperative aberrations. The purpose of our work is to describe and present a novel instrument that permits an easy handling of any IOL during the precise pass of the suspending sutures for double flanged scleral fixation respecting the optic`s diameter and the symmetry of the lens` suspending points.

Methods: The device was designed using CAD software and printed using a 3-D printer. The design includes 3 parts: 1) a handle that permits single-hand holding of the device and carries the sitting base of an IOL insert and a fixation lever, 2) an engraved, interchangeable IOL insert that permits the positioning of the desired IOL in the appropriate alignment assuring that the passing points of the suspending sutures will be symmetrically positioned at the IOL`s optic; different IOL inserts accommodate for various IOL designs while two antidiametrically positioned slots determine the points of suture passage in order to maintain axial symmetry, and 3) a lever that fixes the IOL in the desired position permitting the use of one hand for holding the instrument-IOL complex while the other is used to precisely pass the sutures through the pre-specified points of the IOL`s optic.

Results: The design of the engraved insert permits an accurate alignment of the IOL so that the two slots expose two areas ideally positioned to offer axial symmetry of the suture passing points. Fixation of the IOL in position using the lever offers freedom to handle the device with one hand. The design of the lever and the insert offer adequate support while the suture needle is advanced through the lens` optic. The combination of the accurate symmetry of the sutures` position in the lens` optic with a corresponding axial symmetry in the desired eye meridian during scleral fixation is expected to minimize IOL tilting and subsequent induced aberrations.

Conclusions: We describe a novel device that facilitates the precise symmetrical positioning of suspending sutures for double-flanged IOL scleral fixation. Axial symmetry of passing points and respect of the lens` optic diameter can result in minimal IOL tilting. The possibility of IOL insert engravement customization make the device suitable for any lens design.

Anterior Segment

TREATMENT OF ACANTHAMOEBA KERATITIS WITH AKANTIOR - A CASE REPORT

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Acanthamoeba keratitis (AK) is a severe, acute and rare parasitic corneal infection; it is an ocular emergency and requires urgent treatment, with significant visual morbidity, affecting people of all ages. The incidence of AK has increased rapidly in recent years.

In this communication we would like to present the case of a 19-year-old patient, a contact lens wearer for the last 4 years. On observing the morphology, epidemiology and evolution of the keratitis, a diagnosis of Acanthamoeba keratitis was made by PCR. At first, the treatment described in most protocols, association of a biguanide with a diamidine, was administered. Given the scarce improvement, and through an extensive bibliographic search, we found a treatment recently approved in Europe, AKANTIOR®.

AKANTIOR® (polyhexanide) is set to become the first drug approved and marketed in the world specifically for Acanthamoeba keratitis. Prior to this drug, the usual treatment protocols only included various non-standardized combination therapies involving unauthorized alternatives.

Based on our case and a review of the literature, we conclude that AKANTIOR®, in the absence of further scientific evidence, may prove to be an effective treatment for AK. In addition, factors such as a better

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CLINICAL EVALUATION AFTER MIX AND MATCH IMPLANTATION OF AN EDOF AND A TRIFOCAL IOL IN THE SAME PATIENT; REAL LIFE DATA

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Purpose: To evaluate the optical outcomes after implantation of an EDOF intraocular lens (IOL) and diffractive trifocal IOL in the same patient.

Methods: Patients with no ocular abnormalities except from cataract formation were selected to implant an EDOF IOL in the dominant eye and a diffractive IOL in the non-dominant eye, applying a mini monovision of -0.25 to -0.50 diopters. Visual acuity, contrast sensitivity, VF-7 questionnaire and halo glare simulator were evaluated.

Results: 20 patients were included in the study. EDOF IOL showed better results at distance visual acuity while trifocal IOL showed better results in near vision with the same outcome in intermediate distance. Contrast sensitivity revealed with no differences between EDOF and trifocal IOL in the same patient. Some optical phenomena were observed and satisfying results of questionnaire were obtained.

Conclusion: Implantation of an EDOF IOL in the dominant eye and a trifocal IOL in the non-dominant eye in the same patient showed overall excellent visual outcomes in all distances with minor optical phenomena.

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Anterior Segment

LONG-TERM OUTCOME AFTER CYCLOSPORINE IN POST LASIK EPITHELIAL INGROWTH

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Purpose: To evaluate the efficiency of Cyclosporine-A as a conservative medical treatment for Grade 3 post LASIK epithelial ingrowth.

Methods: A 44-year-old male patient presented with persistent recurrent Grade 3 epithelial ingrowth after LASIK retreatment. The patient had already received unsuccessful Nd-YAG LASER alongside with topical steroid treatment and he was reluctant to an additional surgical intervention. Topical instillation of Cyclosporine-A 0.2% drops was used over a period of two years. Two separate Anterior Segment OCT devices (one Swept Source and one Spectral Domain), Ray tracing Aberrometry, Corneal Topography and Slit Lamp imaging were used at follow up.

Results: Epithelial ingrowth expansion was halted already in the first 3 months. Recession was evident after the first 6 months and continued for the following 2 years. Treatment was discontinued without recurrence with a follow up of an additional 7 years. OCT scans confirm gradual thinning of the fibrotic tissue. The epithelial map was normalized, topographical and tomographical irregularities were reduced and ray tracing aberrations were minimized after 2 years of treatment.

Conclusions: Prolonged topical treatment with Cyclosporine-A may prove efficient in persistent recurrent post LASIK epithelial ingrowth.

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Anterior Segment

THERAPEUTIC USE OF AUTOLOGOUS SERUM

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PURPOSE: To present the results of autologous serum instillation treatment in patients with corneal lesions.
METHODS: We selected patients with persistent corneal lesions of various etiologies (postoperative, autoimmune, ulcers) in whom conventional treatment did not produce the desired results. These patients were treated with autologous serum eye drops.
RESULTS: All patients showed improvement after treatment, both in objective findings and in subjective symptoms.
CONCLUSIONS: The use of autologous serum in corneal defects seems to be effective in difficult cases. It is an additional therapeutic option for the ophthalmologist in these cases.

FINANCIAL DISCLOSURE: NO

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Anterior Segment

SUTURELESS TRANS-SCLERAL CARLEVALE IOL FIXATION: A CONSECUTIVE CASE SERIES, INDICATIONS, COMPLICATIONS AND FUNCTIONAL RESULTS.

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Purpose: to assess visual outcome and complications of the technique of sutureless scleral fixation (SSF) using a single-piece foldable acrylic intraocular lens (IOL-Carlevale).

Methods: This is a retrospective observational, consecutive study conducted revising patients charts from 2020 to 2023. There were included 54 eyes of 54 patients who underwent 25- or 23-gauge pars plana vitrectomy with Carlevale IOL implantation for an IOL subluxation/luxation, lens dislocation, aphakia, or UGH Syndrome. Pre-operative and post-operative visual status and complications during and after surgery were recorded.

Results: The mean follow up was 7,4 ± 7,0 months(range 1-30 months). Mean pre-operative corrected distance visual acuity was 0,77 ± 0,61 logMAR (range 0-2 logMAR) and mean post-operative corrected distance visual acuity was 0,42 ± 0,54 logMAR (range 0-2 logMAR). Nine patients (22,2%) experienced cystoid macular edema, 5 (9,25%)vitreous hemorrhage, 4 (7,4%) intraocular hypertension, 4 (7,4%) reactivation of maculopathy, 2 (3,7%) retinal detachment, 1 (1,8%) dialysis of the iris , 1 (1,8%) iridocorneal angle closure, 1 (1,8%) lamellar macular hole. IOL dislocation, conjunctival erosion, and plug externalization were not observed in any eye during the follow-up.

Conclusions: This report enriches our knowledges about outcomes and complications of this surgical technique. Scleral fixation Carlevale IOL has become our first choice for aphakia correction when there is no capsular support available.

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Anterior Segment

TORIC INTRAOCULAR LENSES: ANALYSIS OF CLINICAL OUTCOMES AT A TERTIARY OPHTHALMIC UNIT

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Purpose
Toric intraocular lenses (IOLs) are becoming increasingly common for patients undergoing cataract surgery. We performed an audit at our unit to evaluate the clinical outcomes and safety of toric IOLs to aid in counselling patients regarding lens choice.

Methods
A retrospective case series was conducted at Moorfields Eye Hospital Foundation Trust UK of all patients who received a toric IOL implant from January 2020 – January 2023. Patients that were lost to follow-up were excluded. Patients underwent pre-operative corneal marking, phacoemulsification and toric IOL implantation. Biometry was obtained using a Zeiss IOL Master and Pentacam was used to determine if corneal astigmatism was regular. Toric IOLs were selected using the manfacturers' online calculators. Post-operative refractions were obtained from autorefraction.

Results
342 eyes of 267 patients were included in the audit. 58% of patients were female and 42% were male. The mean age of our patient cohort was 69.7 years. The mean pre-operating delta K reading was 3.09D. Post-operatively, 49% of eyes had ≤0.50 D astigmatism, 87% had ≤1.00D astigmatism and 96% of eyes had ≤1.50D astigmatism. Six (2%) of eyes required further surgery to reposition the IOL due to misalignment.

Conclusions
Our findings demonstrate that significant reductions in astigmatism and improvements in unaided visual acuity can be achieved with the use of toric IOLs in patients undergoing cataract surgery. Whilst the risk of lens rotation is low, patients should be counselled about this during consenting.

Financial Disclosure: None

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Anterior Segment

OUTCOMES OF PLANNED ANTERIOR CHAMBER INTRAOCULAR LENS INSERTION

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Purpose
Various options for intraocular lens (IOL) placement are available when there is limited capsule support for a posterior chamber IOL. These include sulcus IOL, scleral-fixated IOL, iris-fixated IOL and anterior chamber IOL. We performed an audit at our unit to evaluate the clinical outcomes of planned AC IOL insertion to help aid IOL selection choice in patients not suitable for "in-the-bag" posterior chamber IOL insertion.

Methods
A retrospective case series was conducted at Moorfields Eye Hospital Foundation Trust UK of all patients who received a planned anterior chamber IOL implant from January 2020 – January 2021. All patients had an Alcon MTA anterior chamber IOL inserted. Cases that had concomitant retinal surgery and those that were lost to follow-up were excluded. Post-operative best corrected visual acuity (BCVA), refractive error, corneal oedema, persistent intraocular inflammation, macula oedema and need for further surgery were analysed over a 2 year period.

Results
47 eyes were included in the audit. 54% of patients were female and 46% were male. The mean post-operative BCVA and IOP at the final or most recent visit was 0.26 logMAR AND 18.2mmHg, respectively. The most common post-operative complication was cystoid macula oedema (26%). 6 patients (13%) required further surgery.

Conclusions
Our findings demonstrate good visual acuity and IOP control appear to be well controlled in the majority of cases of planned AC IOL implantation, although close-follow-up is required and it is vital to educate the patient on the potential complications and the importance of frequent follow-up visits.

Financial Disclosures: None

Anterior Segment

TELESCOPIC INTRAOCULAR LENS

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PURPOSE: To present a case of end-stage age-related macular degeneration in which a telescopic intraocular lens was inserted.
CASE PRESENTATION: The case concerns an 84-year-old man who has been followed up in our clinic for 10 years due to age-related macular degeneration. For his condition, he had undergone anti-VEGF intravitreal injections in previous years. Arterial hypertension, diabetes mellitus, and mild dementia are mentioned in the individual history. On ophthalmological examination, the best corrected visual acuity (BCVA) was counting fingers in the right eye and 0.7 (logMar) in the left eye, while the intraocular pressure was normal. During the slit-lamp examination, nuclear sclerosis was found in the right eye, while the patient had already undergone cataract surgery in the left eye 6 months ago. On fundoscopy, a discoid scar was seen in the right eye and geographic atrophy in the left, without evidence of active neovascularization, while the findings were also recorded in an optical coherence tomography (OCT) examination. Due to low vision in both eyes, it was decided to perform phacoemulsification surgery in the right eye and telescopic intraocular lens placement. The operation was uncomplicated, and after 3 months the vision is 0.8, without any postoperative complications and the patient is extremely happy and functional.
CONCLUSION: In end-stage age-related macular degeneration cases where vision is low and there is no active neovascularization, telescopic intraocular lens placement can improve visual acuity.

FINANCIAL DISCLOSURE: No

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OUTCOMES OF HUMAN AMNIOTIC MEMBRANE-DERIVED DRY MATRIX TRANSPLANTATION FOR THE MANAGEMENT OF CORNEAL PATHOLOGY

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Purpose

To report the outcomes of human amniotic membrane-derived dry matrix (AMDDM, Omnigen®) in the management of corneal pathology.

Setting

A retrospective study consisting of 45 cases treated with AMDDM at King's College Hospital NHS Foundation Trust between January 2020 and January 2024 for severe corneal disease of different etiologies.

Methods

A total of 45 eyes of 43 patients were treated with AMDDM and the indications included corneal decompensation, impending or small corneal perforations, persistent epithelial defects and painful bullous keratopathy. Seven outcome measures were used: baseline visual acuity (VA), final VA, time to heal, time to bandage contact lens (BCL) removal, baseline pain, final pain and further interventions.

Results

53% showed an improvement in VA and the average healing time was 8 weeks. The average time to BCL removal was 2 months with 100% of patients reporting improved comfort compared to baseline. 35% of patients required further intervention due to perforation (4) corneal melting (2), persistent epithelial defect (7), and severe corneal decompensation (2). Of those who required secondary intervention, 60% had an improvement in VA. There were 2 patients who had further AMT as their secondary intervention (corneal perforation = 1, persistent epithelial defect = 1).

Conclusions

AMDDM (Omnigen®) has proven to be a minimally invasive procedure offering a successful treatment option in acute corneal pathology with the advantages of reduced storage, cost and transport restrictions. Future larger prospective control-group studies will establish whether AMDDM can become the new gold-standard in amniotic membrane transplantation.

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FEMTOSECONDLASER ASSISTED DESCEMETORHEXIS (FS-DR) IN PSEUDOPHAKIC CORNEAL EDEMA – 2 YEARS FOLLOW-UP

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Purpose: To evaluate feasibility, efficacy and precision of Femtosecond LASER assisted Descemetorhexis (FS-DR) in Pseudophakic Bullous Keratopathy (PBK).

Methods: A 45-year-old male patient with post-traumatic PBK was scheduled for FS-DR and Ultra-Thin DSAEK (UT-DSAEK). The posterior lamellar cut profile of a FS-LASER device (Wavelight FS 200, Alcon) was used. We planned a posterior vertical 9.5mm-diameter ring, 120μm deep with an offset of -140μm to assure consistent scoring, taking into consideration the varying peripheral corneal thickness. FS LASER cut was set at a depth of 850μm based on high resolution Spectral Domain Anterior Segment OCT (SD-AS-OCT). The pulse energy was set to 2.0μJ, with a spot size of 4.0μm and a line separation of 2.0μm. Two different high-resolution SD-AS-OCT devices (Solix and Optovue) were used to evaluate postoperative precision.

Results: A 79-87μm deep scoring was successfully achieved consistently at 360o. No overlapping of the graft was observed thanks to oversizing of the diameter of the FS-DR. An 8.5mm-diameter 100μm thick UT-DSAEK graft was implanted. After two years, ECD was 1400 cells/mm2 and graft thickness was 93μm. Some difficulty was encountered in separating the DM at the edges, because FS-DR included inevitably part of the overlying stroma.

Conclusion: Despite the thicker and more opaque peripheral cornea, FS-DR may be applied successfully in PBK with precision, consistency and accuracy by adjusting the FS-LASER settings accordingly. Oversizing of the diameter prevents overlapping of the graft. Including a small part of the overlying stroma may pose some difficulty in separating the sole DM.

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ULCERATIVE COLITIS RELATED INTRASTROMAL CORNEAL OPACIFICATION

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Purpose: To present a case of progressing corneal clouding in a patient with ulcerative colitis.

Methods: A 23-year-old female patient was referred with asymptomatic multiple bilateral corneal opacifications. The patient had recently initiated systemic treatment with the monoclonal antibody Vedolizumab for ulcerative colitis that was diagnosed years ago. In the one eye, one of the opacifications progressed significantly, threatening the visual axis. High resolution Spectral Domain Anterior Segment OCT, Ray tracing Aberrometry, Corneal Topography and Slit Lamp imaging were used at follow up.

Results: Tomography scans revealed a morphology of extensive subepithelial infiltrates accompanied by keratocyte reaction in the anterior stromal. Opacifications could not be identified as deposits. On the contrary, the images indicated some immunological response of the underlying disease (ulcerative colitis) possibly exacerbated by the immunomodulation induced by the administration of the monoclonal antibody.

Therefore, topical Cyclosporine-A 0.1% was administered three times daily for 2 months. Initially, progression was halted and later opacification was reduced in size and faded.

Conclusions: In case of systemic immunomodulating treatment, ulcerative colitis may cause significant and potentially vision-threatening subepithelial corneal infiltrates and stromal opacification that responds successfully to topical Cyclosporine-A.

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UNILATERAL ENDOTHELITIS AND PROGRESSED CATARACT AFTER SYSTEMIC COVID-19 INFECTION

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Purpose: To report a case of unilateral endothelitis and progressed cataract after systemic COVID-19 infection.

Methods: A 54-year-old male patient presented with reduced visual acuity in his right eye (OD) that deteriorated rapidly after systemic COVID-19 infection to the level of Light Perception. The patient reported preexisting unilateral cataract in the same eye that progressed rapidly after COVID-19 infection. Furthermore, he mentioned some irritation in OD that developed during the COVID-19 infection. Slit lamp evaluation revealed numerous fine keratic precipitates dispersed almost evenly on the corneal endothelium together with very progressed white cataract only in OD. No clinical findings were evident in the other eye. Fundus examination was impossible to be performed.

Results: Specular microscopy revealed significant irregularities of the endothelial cells in OD with reduced hexagonality, increased size, decreased density and irregular shape. Corneal pachymetry was symmetrical between the two eyes (505μm). The patient underwent standard phacoemulsification. Immediately after, signs of hyalitis were already visible under the surgical microscope. The patient received a subconjunctival injection of betamethasone immediately after phacoemulsification, followed by Cyclopentolate and Atropine drops for 15 days. No severe inflammation was observed postoperatively. The condition of the corneal endothelium remained unaltered for 3 months after the operation.

Conclusions: Unilateral endothelitis may develop after systemic COVID-19 infection and may be related to progressed ipsilateral cataract.

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COMMONEST MISTAKES DURING THE REFRACTION CERTIFICATE EXAM

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Ophthalmology specialty trainees are required to pass the refraction certificate exam within the first two years of training. If one passes this exam before entering a training programme, this can add two points to the portfolio during applications. In this paper, we will discuss the mistakes that most commonly occur during the refraction certificate exam which can easily be avoided if properly accounted for. These mistakes have been compiled by interviewing optometrists and ophthalmologists involved in teaching and examining the skills required for the exam.