

algorithms. Preoperative stromal hyperreflectivity was associated with lower visual acuity recovery after DMEK surgery. Tools to identify stromal hyperreflectivity corresponding to clinical stromal scarring can help clinicians in stratifying candidate patients for DMEK and gauging the expected visual acuity recovery rate.

OP-4 CHARACTERISING MIRVETUXIMAB-INDUCED OCULAR SURFACE DISEASE

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Background Mirvetuximab soravtansine (MIRV) is the first antibody-drug conjugate targeting folate receptor alpha recently approved for use in advanced platinum-resistant ovarian, fallopian tube or primary peritoneal cancer and is rapidly gaining popularity. This study aims to report the clinical features, treatment strategies and outcomes of MIRV-induced ocular surface disease.

Methods Ten patients were included from Aug 2017 - October 2023. Ocular symptom assessment and comprehensive ophthalmic examination, including slit lamp biomicroscopy, anterior segment optical coherence tomography (AS-OCT), and confocal microscopy were performed.

Results All patients were female treated for advanced ovarian cancer (mean age 66.7 ± 5 years). Seven (70%) had grade 1–2 superficial punctate keratopathy. Five (50%) developed bilateral mid-peripheral microcystic subepithelial opacities, two of which progressed to involve the central cornea. AS-OCT confirmed the corneal opacities were limited at the subepithelial layer. Confocal microscopy demonstrated a rosette pattern for these subepithelial opacities. Two required MIRV dosage reduction due to ocular adverse events. No discontinuation of MIRV was necessary. Ocular surface and corneal changes resolved with recovery to baseline best corrected visual acuity for all patients.

Conclusion Dry eyes and microcystic subepithelial changes were the commonest MIRV-induced ocular adverse events but these were transient and reversible. We hypothesise the insult and centripetal migration of transient amplifying cells (TACs) to be responsible for the pathogenesis but further investigation is required. Prophylactic use of topical corticosteroid which delays TACs migration is recommended for all patients starting on MIRV. MIRV dosage reduction for patients with more severe ocular surface disease resulted in good resolution of symptoms.

OP-5 INCREASED INCIDENCE OF ADULT GONOCOCCAL KERATOCONJUNCTIVITIS AT TWO TERTIARY EYE HOSPITALS IN WESTERN EUROPE: CLINICAL FEATURES, COMPLICATIONS AND ANTIMICROBIAL SUSCEPTIBILITY

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Introduction Gonorrhoea is on the rise. Between 2021 and 2022, sexual health services saw a 50% and a 33% increase

in diagnoses respectively in England and The Netherlands. A concurrent rise in gonococcal keratoconjunctivitis (GKC) is a serious concern due to the potentially devastating visual complications, yet there is limited national epidemiology on GKC, including on antimicrobial susceptibility. This increase coincides with a major public health concern; *N. gonorrhoeae* is evolving high levels of antimicrobial resistance, including to ceftriaxone, the last available option for empirical therapy.

Method A descriptive, retrospective case series was conducted in two tertiary referral centres; Moorfields Eye Hospital, London, UK and Rotterdam Eye Hospital, Rotterdam, The Netherlands between 2017 and 2023.

Results There was simultaneously increased incidence of adult GKC in both centres, with 11 cases confirmed in the first seven months of 2023, compared to ≤ 3 per year in 2017–2022. The clinical features, ocular complications and antimicrobial susceptibilities are reported.

Conclusions There was a notable increase in the incidence of GKC cases in our centres in 2023, which may indicate a rise across Western Europe. Emergency departments need a heightened awareness to identify and treat cases at first presentation, even in individuals without identifiable risk factors. Nationwide studies of the incidence, clinical features, risk factors, management, complications and antimicrobial resistance of adult patients with GKC have been proposed in both countries for 2024. In the UK this will be facilitated by the British Ophthalmological Surveillance Unit (BOSU) in association with the UK Health Security Agency.

OP-6 THE INVOLVEMENT OF CORNEAL NERVES IN THE PATHOGENESIS OF KERATOCONUS

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Purpose To study the morphologic characteristics of corneal nerves in patients with advanced keratoconus using the acetylcholinesterase technique in corneal whole mounts.

Design Prospective, observational case series.

Methods Fourteen corneal buttons from 14 keratoconic patients (9 males and 5 females; mean age, 34.3 years) who had undergone keratoplasty for advanced keratoconus and 6 corneal buttons from 6 normal corneas were included. Whole mounts were stained for acetylcholinesterase and were scanned with a novel Nanozoomer digital pathology scanning microscope.

Results Seventy-one percent of keratoconic corneas demonstrated central stromal nerve changes, which included thickening, tortuosity, nerve spouting, and overgrowth. The nerve changes ranged from early to extensive and could be separated into 3 different grades. The central stromal nerves were abnormally thicker ($18.9 \pm 14.7 \mu\text{m}$) than in controls ($8.11 \pm 3.31 \mu\text{m}$; $p < .001$). The thickness of peripheral stromal nerves ($12.6 \pm 3.1 \mu\text{m}$) was similar to that of controls ($14.86 \pm 5.60 \mu\text{m}$; $p = .072$). Subbasal nerves showed changes in the form of loss of radial orientation and increased tortuosity, especially at the cone apex. At the cone base, a concentric arrangement of subbasal nerves was found in 43% of cases. Localized thickenings of subbasal nerves also were observed at their origin from the bulbous terminations of sub-Bowman nerves. The terminal bulbs, too, were enlarged. The mean

diameter of the subbasal nerves in keratoconus ($4.11 \pm 0.60 \mu\text{m}$) did not differ from that of the controls ($4.0 \pm 0.61 \mu\text{m}$; $p = .422$).

Conclusions This study provides additional histologic evidence of the involvement of corneal nerves in keratoconus and suggests further that they may play a role in the pathogenesis and progression of the disease.

OP-7

A COMPARISON OF KERATOCONUS PROGRESSION FOLLOWING COLLAGEN CROSS-LINKAGE USING STANDARD OR PERSONALISED KERATOMETRY THRESHOLDS

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Objective To define if keratoconus progression estimates following collagen cross-linkage (CXL) vary according to the parameter used to identify changes in corneal shape.

Methods We estimated progression following CXL in 1,677 eyes. We compared standard definitions of keratoconus progression based on published thresholds for Kmax, front K2, or back K2, or progression of any two of these three parameters, with the option of an increased threshold for Kmax values $\geq 55\text{D}$. We excluded pachymetry from the analysis as this reduces unpredictably after CXL. We repeated the analysis using novel adaptive estimates of progression for Kmax, front K2, or back K2, developed separately from 6,463 paired readings from keratoconus eyes, with a variation of Bland-Altman to determine the 95% regression-based limits of agreement (LoA). We created Kaplan-Meier survival plots for standard and adaptive thresholds. The primary outcome was keratoconus progression five years after a reference visit 9–15 months following CXL.

Results Rates of progression were 8% with a standard ($\geq 1.5\text{D}$) threshold for K2, or 6% with the static multi-parameter definition. With a $\geq 1\text{D}$ threshold for Kmax, the progression was significantly higher at 29%. With adaptive Kmax or K2 measurements the progression rates were similar (20%), but less than with the adaptive multi-parameter method (22%).

Conclusions Estimates of progression following CXL vary widely according to the reference criteria. Using new adaptive thresholds to define the repeatability of keratometry (LoA) gives estimates for progression markedly higher than the standard multi parameter keratometry method.

OP-8

FEMTOSECOND LASER ASSISTED WEDGE RESECTION FOR PELLUCID MARGINAL DEGENERATION

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Aims To utilise the femtosecond laser to enable safe and quick wedge resection surgery for contact lens-intolerant pellucid marginal degeneration.

Methods The results of the first 3 patients will be presented with before and after photos, pentacam and refractions.

Results Corneal tomography, refraction and visual acuity improved with the procedure.

Conclusion Femtosecond laser is a useful tool to improve the safety and precision of wedge resection in pellucid marginal degeneration.

OP-9

SURGICAL MANAGEMENT OF LATE COMPLICATIONS IN OSTEO-ODONTO-KERATOPROSTHESIS (OOKP). THE ROLE AND CHALLENGES OF THE MULTIDISCIPLINARY TEAM AT MOORFIELDS EYE HOSPITAL

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Purpose To present our experience in the surgical management of late complications in Osteo-Odonto-Keratoprosthesis (OOKP) following transfer of this highly specialised Service to Moorfields Eye Hospital.

Method During the first year following transfer of the OOKP Service, five surgical interventions in four patients were performed by a multidisciplinary team treating unique complications. A total of three retinal detachments repairing procedures were performed by endoscopic vitreo-retinal approach. One patient presented severe chronic cystoid macular oedema and required fornix and buccal mucosa dissection to allow periocular injection of triamcinolone. One patient affected by LOGIC syndrome presented with aqueous leak, hypotony and significant vision deterioration in his only OOKP eye and underwent urgent osteo-dental lamina repair.

Results In one patient endoscopic surgical repair was not successful in restoring vision because of advanced tractional retinal detachment following endophthalmitis managed elsewhere. Another patient with retinal detachment regained sight in his only eye but required repeat endoscopic VR surgery. One patient with cystoid macular oedema improved his vision in his only eye following periocular injection of triamcinolone. One patient with LOGIC syndrome underwent surgical re-suturing and repairing of his thin osteo-dental lamina which resolved the aqueous leak and this patient recover his previous 6/6 vision.

Conclusions The OOKP is a highly specialised service and these unique complications require a multidisciplinary team. Moorfields Eye Hospital is now the National Referral Centre for OOKP and the multidisciplinary team is committed to introduce innovations aiming to improve the surgical techniques.

OP-10

THE RATIONALE FOR THE USE OF MICROBIAL KERATITIS DRUG DELIVERY PROTOCOLS

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Introduction Currently there is only one evidence based and published microbial keratitis protocol, the TST (Topical, Systemic, and Targeted Therapy) protocol, which is for use for use in fungal keratitis. Treatment guidelines, without