supporting evidence for outcomes are widely used but seldom audited for adherence and results. The current situation is exemplified by the widely disseminated American Academy of Ophthalmology Bacterial Keratitis Preferred Practice Pattern which reviews a swathe of publications but provides few details for the key decision making points in the treatment of bacterial keratitis other than choice of initial treatment.

Key decisions are causative organism dependent and are required for the following: initial treatment; the application frequency for the intensive treatment phase and its length; how to reduce the intensive frequency to one specified for maintenance therapy until defined cure criteria are reached; the time point at which treatment failure should be considered requiring re-evaluation of both diagnosis and treatment; second line adjunctive or alternative topical/systemic antimicrobial therapy; use of adjunctive steroids both when being applied at baseline (point of diagnosis and start of antimicrobial therapy) or later; how to withdraw steroid; management of recurrences of infection or inflammation; when to use cross linking, photodynamic therapy or therapeutic keratoplasty.

Evidence will be given to show how the use of such a detailed protocol has provided high cure rates in both fungal and protozoal keratitis and how such protocols can be expected to be of benefit to all colleagues managing both common and rare causes of keratitis.

OP-10 RECURRENT MICROBIAL KERATITIS DUE TO STAPHYLOCOCCUS AUREUS

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Purpose To investigate microbiological and clinical characteristics of recurrent S. aureus keratitis.

Methods Patients with S. aureus keratitis were included. For a subgroup, samples were collected from affected and unaffected corneas and contiguous sites (conjunctiva, lids, nose) at presentation and on days 3, 7 and 28. Samples were cultured, amplified and analysed using metagenomics (Illumina and Nanopore sequencing followed by hybrid assembly and annotation). Comparisons were undertaken of clonal type and presence of virulence genes in S. aureus between patients with and without recurrent disease. Patients were grouped according to presence of risk factors: group 1 (contact lens), group 2 (corneal disease), group 3 (systemic disease), group 4 (ocular surface disease) and group 5 (previous keratitis).

Results Twenty-five patients with recurrent disease and 60 without were included (age 69.20 SD 14.50). Mean healing time was 25.55 days (SD 14.74) and ulcer size 1.99 x 1.31 mm. There was no difference in clonal type, but 3 virulence genes (p=0.03, p=0.01 and p=0.009) were significantly more likely to be present in S. aureus from patients with recurrent disease. Bar one patient with recurrent disease, the same strain of S. aureus isolated from cornea at initial and recurrent episodes. S. aureus persisted at contiguous sites in both recurrent and non-recurrent disease and was isolated more frequently from conjunctiva and nose compared to controls (p=0.03).

Conclusions Treatment of S. aureus keratitis only with topical antimicrobials is insufficient to remove S. aureus from contiguous sites and patients remain at risk of further keratitis.

Poster Abstract Presentation

P-11 OUTCOMES OF LARGE DIAMETER PENETRATING KERATOPLASTY: THE SOUTHAMPTON EXPERIENCE

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Introduction In severe corneal infections or keratolysis, large-diameter penetrating keratoplasty (LDPK) is often the last resort before eye evisceration or enucleation to restore tectonic integrity. The literature shows a greater risk of complications postoperatively, second surgeries, and poor visual acuity following a large-diameter keratoplasty. Studies overlook LDPK benefits, such as maintaining eye integrity and limited vision.

Methods We performed a retrospective observational study of all full-thickness corneal grafts at Southampton General Hospital from 2017 to 2022 with graft diameters larger than 8.5 mm. Data from these patients were analysed for tectonic success, visual outcomes, and graft rejection/failure rate.

Results 18 patients underwent large-diameter penetrating keratoplasties from 2017 to 2022. Of these, 12 cases (66.7%) were performed for severe infectious keratolysis and 4 (22.2%) for perforation from pellucid marginal degeneration and trauma. Tectonic stability was achieved in 15 cases (83.3%) at a mean follow-up of 26.05 months. Optical outcomes showed improvement in visual acuity in 10 patients (55.6%). Graft remained clear in 9 out of 15 cases (60%) where a tectonic outcome was achieved.

Conclusion/Discussion LDPK should be considered as an option in corneal infection and keratolysis cases to avoid enucleation or evisceration. Our study found that 83.3% of cases achieved this goal. However, the prognosis for vision and graft viability remains guarded, and patients should be counselled accordingly.

P-12 PREVALENCE AND EVIDENCE OF TOMOGRAPHIC BIOMARKERS OF DECOMPENSATION IN FUCHS' ENDOTHELIAL CORNEAL DYSTROPHY

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Purpose To compare the performance of three commercially available tomographers (the Pentacam Scheimpflug camera, the SS-OCT Casia, and the blue light slit-scanning tomographer Precisio) in the identification of patterns associated with Fuchs' Endothelial Corneal Dystrophy (FECD) decompensation.

Methods Clinic-based, cross-sectional imaging study. Pachymetry maps and posterior surface elevation maps were acquired with the three devices from 45 eyes affected by FECD. The