

Iris Replacement A Scleral-fixated HumanOptics artificial iris (CustomFlex[®]) was inserted in September 2023. As the pre-existing sutured IOL was sutured approximately 2.8 mm posterior from the limbus, the iris implant was fixated at 1.8 mm posterior to the limbus. The surgery achieved excellent anatomical results and improved symptoms. However, there was a persistently high intraocular pressure (IOP) (maximal IOP = 50 mmHg) despite maximal medical management necessitating Ahmed valve implantation in November 2023. Visual acuity improved from 6/30 pre-op to 6/19 postoperatively and at last review IOP was 8 on no medications.

Conclusion Artificial iris implants can be safely inserted in eyes with pre-existing scleral-fixated IOLs, provided close monitoring is undertaken to ensure issues with raised IOP are managed promptly.

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CHANGING INDICATIONS FOR PENETRATING KERATOPLASTY AND 5-YEARS SURVIVAL OUTCOMES – A SINGLE TERTIARY CENTRE EXPERIENCE

^{1,2}Jan Sniatecki, ^{1,2,3}Harinderjeet Sandhu, ^{1,2,3}David Anderson, ^{1,2,3}Aristides Konstantopoulos, ^{1,2,3}Parwez Hossain. ¹Eye Unit, Southampton General Hospital, Southampton, UK; ²University Hospital Southampton NHS Trust, Southampton, UK; ³Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, Southampton. UK; jan.sniatecki@gmail.com

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Purpose To investigate long-term graft survival rates of penetrating keratoplasties, patient characteristics and co-morbidities in a single tertiary care centre on the South Coast.

Methods Retrospective, non-comparative case series review of 5-year follow-up for patients who underwent penetrating keratoplasty between 2008 and 2018. The primary outcome measures were 5-year corneal graft survival, graft surgery indications, and co-morbidities identification.

Results 198 penetrating keratoplasties were performed, of which 32 were excluded from further investigation because of insufficient follow-up data. 60 (36%) grafts in 45 patients did not survive a 5-year follow-up. In this group, the mean age of transplant recipients was 64 years (range 18–90, median 67), with a male-to-female ratio of 5:4. 27 (45%) were re-graft surgeries, and 10 (17%) had more than three penetrating keratoplasties. The failure group often included more than one indication for surgery. Of these, the most prevalent were infective/therapeutic grounds (52%), bullous keratopathy (20%), herpes simplex keratitis (10%), corneal ectasia (8%) and trauma-related (5%). The most common co-morbidities in the graft failure group were glaucoma (47%), infectious keratitis (42%), glaucoma surgery (20%), anterior chamber intraocular lens (13%) and retinal detachment surgery (13%). Most patients in the failure group (78%) were of advanced age of more than 65 years old.

Conclusions It was found that most penetrating keratoplasties failed due to infective keratitis. Patients in our graft failure group had high rates of ocular and medical co-morbidities, requiring multiple procedures and multidisciplinary care from various ophthalmic and medical subspecialties.

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HOW TO ASSESS THE EFFECTIVENESS OF CORNEAL CROSS-LINKING FOR KERATOCONUS: NEED OF A SHARED PROTOCOL

¹Mariacarmela Ventura*, ^{2,3}Matteo Airaldi, ³Luca Pagano, ³Kunal Gadhi, ³Stephen Kaye, ^{2,3}Vito Romano. ¹Department of Medical and Surgical Specialties, Radiological Sciences, and Public Health, Ophthalmology Clinic, University of Brescia, Brescia, Italy; ²Department of Molecular and Translational Medicine, University of Brescia, Brescia, Italy; ³St. Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, UK; *marica_ventura@libero.it

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Objective Comparing definitions of progression in keratoconus (KC) patients after corneal cross-linking (CXL).

Methods Retrospective case series of KC eyes underwent CXL. Keratoconus progression after CXL treatment was defined based on either the widely accepted standard criteria (i.e., maximum keratometry (Kmax), increase >1 Diopter (D) or thinnest corneal thickness (ThCT) reduction >20 mm) or the ABCD progression criteria.

Results Thirty-seven KC eyes underwent CXL. Kmax showed a significant reduction from baseline values after CXL ($p < 0.01$), while no difference in ThCT ($p = 0.12$) and in CDVA ($p = 0.1$) was found. Applying standard criteria for progression 18.9% (7/37) of eyes were classified as progressed and 43.2% (16/37) according to the ABCD method.

Conclusions Different definition of progression leads to increased misclassification, there is a need of a shared protocol to assess the effectiveness of CXL.

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TRI-LAMELLAR MINI-DSEK FOR REPAIR OF INTRACTABLE CORNEAL PERFORATIONS

Ruchi Gour*, Annamaria Sideri, Sophie Jones, Emma Hollick. King's College Hospital, London, UK; *ruchi.gour@nhs.net

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Introduction Recurrent corneal perforations can be challenging to treat, especially in cases of chronic ocular inflammation. We highlight a novel technique for the definitive treatment of corneal perforations not amenable to therapy with cyanoacrylate glue.

Methods We report two cases of large corneal perforations secondary to active rheumatoid arthritis. The cases had perforations that failed to seal after several attempts of cyanoacrylate glue and bandage contact lenses. A novel technique- Tri-lamellar tectonic Mini-Descemet Stripping Endothelial Keratoplasty (Mini-DSEK) along with amniotic membrane transplant (AMT) was used to restore anatomical integrity with success in both cases. In addition to the mini-DSEK patch, an overlay stromal cap was harvested from the same donor tissue and used as a patch graft, 'sandwiched' in between the DSEK tissue and the AMT. The AMT and patch were secured in position with fibrin glue, sutures and a BCL that provided additional strength. The sutures were removed at one month.

Results Both had deep anterior chambers with no leak post operatively. The stromal cap is thin, transparent and adds tissue in the area of thinning. This tri-lamellar technique provides structural integrity, transparency, has anti-inflammatory properties, promotes re-epithelialization and ocular surface healing.