

We opted for conservative management, after which the DM detachment spontaneously resolved and corneal thickness improved.

DM detachment is an uncommon late complication of PK and pathophysiology is thought to be mechanical due to a retrocorneal membrane, or due to recurrence of corneal ectasia. The majority of published cases underwent surgery with air, SF6, or C3F8 with postoperative supine positioning, or progression to repeat PK or DSAEK if this initial treatment fails. Topical steroids can be given for conservative management.

**Conclusion** Conservative management of DM detachment can be an option for patients with guarded prognosis, or in small detachments with no tears. Our case provides another data point on the presentation and progression of this complication to the small number of case reports in the literature.

**P-13** **TRANS-EPITHELIAL PHOTOTHERAPEUTIC KERATECTOMY (PTK) FOR RECURRENT CORNEAL EROSION SYNDROME (RCES)**

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**Objective** To evaluate the efficacy and safety of trans-epithelial phototherapeutic keratectomy (PTK) as a treatment for recurrent cornea erosion syndrome (RCES) in patients with symptoms refractory to conventional treatments.

**Methods and Analysis** All patients who received PTK treatment for RCES had failed more than one conventional treatment, and were first vetted and approved by the British Columbia public health authority. A retrospective chart review and telephone survey were conducted at the Pacific Laser Eye Centre. Exclusion criteria were ocular co-morbidities potentially affecting treatment efficacy.

**Results** This study included 593 eyes of 555 patients (46.2% male; 50.9±14.2 years old) who underwent PTK. The leading identified causes of RCES were trauma (45.7%) and anterior basement membrane dystrophy (44.2%). The most common pre-PTK interventions were ocular lubricants (90.9%), hypertonic solutions (77.9%), and bandage contact lenses (50.9%). 36 eyes had undergone surgical interventions such as stromal puncture, epithelial debridement, or diamond burr polishing. Post-PTK, 78% of patients did not require any subsequent therapies, 20% required ongoing drops and 6 patients (1.1%) reported no symptom improvement. All 6 eyes were successfully retreated with PTK between 11.3 ±14.9 months from initial PTK. All study patients showed no significant differences in best corrected visual acuity pre vs. postoperatively.

**Conclusion** When compared to other surgical options, PTK is potentially more costly but frequently more effective and has a high safety profile. The third-party public health vetted nature of this study, the high patient satisfaction, and the low recurrence rate of RCES suggest that PTK should be considered at an earlier stage in the management of RCES.

**P-14** **DESCEMET STRIPPING ENDOTHELIAL KERATOPLASTY VERSUS DESCEMET MEMBRANE ENDOTHELIAL KERATOPLASTY: 5-YEAR GRAFT SURVIVAL AND ENDOTHELIAL CELL LOSS IN PATIENTS WITH FUCHS' ENDOTHELIAL DYSTROPHY**

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**Objective** To compare endothelial cell loss, graft survival, and clinical outcomes in patients with Fuchs' endothelial dystrophy (FED) up to 5 years after Descemet stripping endothelial keratoplasty (DSEK) and Descemet membrane endothelial keratoplasty (DMEK).

**Methods** 318 consecutive DSEK (n=189) and DMEK (n=129) grafts of 223 patients performed by 8 surgeons with standardised protocols between January 2006 and October 2021 were analysed. Group differences were compared with parametric and non-parametric tests. Kaplan-Meier analysis and Cox regression were conducted for graft survival and identify graft failure and rejection risk factors.

**Results** At 5 years, graft survival was 97% and 98% (p=0.370) in DSEK and DMEK eyes. Mean percentage endothelial cell loss was 56.6±17.6 in DSEK and 55.6±15.2 in DMEK eyes (p=0.865). Mean BSCVA was 0.12±0.13 LogMAR in DSEK and 0.00±0.17 in DMEK grafts (p<0.00001) at 5 years postop. Within 5 years, 12% of DSEK and 9% of DMEK eyes developed allograft rejection (p=0.412). Rebubbling was performed in 9.0% of DSEK and 2.3% of DMEK grafts (p=0.211). Cox regression identified rejection episode (HR 1.36; 95% CI: 2.31–80.22 (p=0.004)) as a significant contributing factor for graft failure.

**Conclusions** At 5 years there was no significant difference in graft survival or endothelial cell loss between DMEK and DSEK eyes with FED. We propose that our standardised technique reduces the need for rebubbling. DMEK had superior visual acuity outcomes compared with DSEK in these patients up to 5 years after surgery.

**P-15** **UTILISING ENDOTHELIAL MIGRATION TO PERFORM DEEP ANTERIOR LAMELLAR KERATOPLASTY IN EYES WITH DEEP POSTERIOR CORNEAL SCARRING TYPICALLY TREATED WITH PENETRATING KERATOPLASTY**

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**Purpose** To describe a novel technique for deep anterior lamellar keratoplasty (DALK) in patients central corneal perforation and deep scarring making conventional DALK (Melles or Big Bubble) unviable. A posterior Descemet's membrane (DM) skirt has provided an adequate scaffold for the migration of the host endothelial cells.