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Reduced corneal nerve fiber length in prediabetes and type 2 diabetes: The Maastricht Study

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**Purpose:** In individuals with diabetes, injury to the corneal nerve fibers predisposes to delayed corneal epithelial healing, reduced corneal sensitivity, and corneal erosion. We investigated to what extent a reduction in corneal nerve fiber length (CNFL) is present in individuals with prediabetes or type 2 diabetes (DM2) compared with individuals with normal glucose metabolism (NGM).

**Methods:** This study was performed as part of The Maastricht Study, an observational prospective population-based cohort study. Using composite images acquired by corneal confocal microscopy, we assessed total CNFL per mm² in the subbasal nerve plexus of the cornea in 165 participants (mean age 58 ± 8 years, 44% men, 110 NGM, 25 prediabetes, 30 DM2). Multivariable linear regression was used to assess the association between CNFL and glucose metabolism.

**Conclusion:** Our studies indicate that the CRISPR/Cas9 system can be effectively targeted to herpesvirus genomes as a potent prophylactic and therapeutic anti-viral strategy that may be used to impair viral replication in vivo.

Long-term clinical outcomes following deep anterior lamellar keratoplasty

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**Introduction:** Deep anterior lamellar keratoplasty (DALK) may be a suitable lamellar keratoplasty technique in patients with corneal stromal pathologies not affecting the endothelium. The main advantage is to prevent long-term endothelial cell loss and to promote graft survival.

**Patients and Methods:** 71 eyes of 69 patients who received a DALK between November 2002 and April 2016 were included in this retrospective study. Indications for surgery were keratoconus (n = 39 eyes), stromal scar (n = 20), herpes simplex virus keratitis (n = 10), post-LASIK ectasia (n = 1) and corneal stromal dystrophy (n = 1). Postoperatively, best (spectacle) corrected distance visual acuity (LogMAR; BDVA), refractive and corneal astigmatism, endothelial cell loss, complications and graft survival were evaluated at 3 months, 6 months, 1 year, 3 years and 5 years.

**Results:** Mean age at the time of surgery was 39 ± 15 years. Mean follow-up was 3.5 ± 1.6 years; 34 eyes completed a follow-up of 5 years. Ten eyes (14%) were lost to follow-up. Mean BDVA improved from 0.98 ± 0.58 LogMAR preoperatively to 0.19 ± 0.32 at the last follow-up visit. Postoperative mean spherical equivalent and mean