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Poster Abstracts
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Severe neurotrophic keratitis secondary to diabetes mellitus in a monocular patient: therapeutic use of a scleral lens as a drug reservoir

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Introduction: Neurotrophic keratitis (NK) is a degenerative corneal disorder caused by trigeminal nerve impairment, leading to epithelial instability, stromal breakdown, and risk of perforation. Diabetes mellitus is a major systemic contributor due to associated peripheral and corneal neuropathy, which reduces trophic support and can compromise ocular surface integrity.
Case Report: An 84-year-old monocular male with type 2 diabetes mellitus presented with a persistent epithelial defect and stromal thinning in his left eye. Neurotrophic keratitis secondary to diabetes was diagnosed after exclusion criteria. Management included a therapeutic scleral lens filled with a preservative-free solution of insulin, antibiotic, and low-dose corticosteroid, with same ocular drops instilled every 8 hours over the lens. Follow up visits included lens removal, application of amniotic membrane extract to the corneal surface, and lens cleaning and disinfection. Slit-lamp and AS-OCT assessments guided daily monitoring of epithelial healing, stromal integrity, and inflammation. Progressive epithelialization was observed, achieving complete closure by day 12, with stabilization of stromal thinning. Visual acuity improved from 20/200 to 20/63. The patient continues intermittent daytime scleral lens wear and is being evaluated for corneal transplantation.
Conclusion: This case highlights the successful integration of mechanical protection, trophic stimulation, and intensive monitoring in severe NK, demonstrating that insulin-enriched scleral lens therapy can achieve rapid epithelial healing, stabilize the cornea, and maintain functional vision in high-risk monocular patients.

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