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TITLE: Challenges with Scleral Lenses for Patients with INTACs

Purpose:

INTACs are circular implantable intracorneal ring segments surgically implanted into the corneal stroma. They are designed to flatten the cornea for patients with mild myopia and mild to moderate keratoconus. These devices are designed to reduce visual disturbances associated with corneal ectasia. Many patients require correction post-operatively and fitting them with contact lenses can pose some challenges due to the irregular nature of the cornea and the effect of the implant on corneal profile. The purpose of this case is to highlight some challenges faced when fitting scleral lenses (SL) for patients with INTACs.

CASE DESCRIPTION:

A 48-year-old Hispanic male presented for an ocular health examination secondary to keratoconus OU and a SL evaluation. His ocular history was remarkable for stable keratoconus OU and was status-post INTACs (2 segments) OS in 2012 without complications. He presented with complaints of fluctuating redness OU, lens awareness OS, and intermittent fogging of vision with his habitual scleral lenses OU.

His habitual SLs demonstrated excessive central post-lens fluid reservoir clearance, inferior temporal decentration, nasal corneal touch over the INTAC, inadequate limbal clearance, and conjunctival impingement OU. Slit lamp examination revealed 2+ diffuse bulbar injection OU. Upon SL removal, there was 2+ diffuse punctate staining OU as well as microcystic edema near the nasal and temporal limbus. A conjunctival impression ring was noted OU. Anterior segment optical coherence tomography confirmed findings.

Due to the oblate shape of the cornea and examination findings, new scleral lenses were ordered with an oblate profile, smaller overall diameter, and changes to the landing zones. The patient reported immediate improvement in comfort, decreased redness, and decreased fogging of vision.

CONCLUSIONS:

Fitting patients s/p INTACs requires attentive evaluation and follow up to prevent mechanical stress to the cornea, corneal hypoxia, and conjunctival injury. Scleral lenses offer customizations to match the oblate profile of the post-surgical cornea and decrease fitting challenges.

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