



Title: Scleral contact lenses on compromised cornea can delay re-grafting: A case study that illustrate how great collaboration between optometry and ophthalmology can be

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Abstract:

Purpose

To highlight a non-surgical, minimally invasive solution for vision correction in patients that otherwise are requiring re-grafting due to deteriorated optical quality that impact their ability to function in daily life. The case presents scleral lenses as an alternative to re-grafting in cases involving old but still functioning corneal grafts.

Setting

St. Olav's University Hospital Trondheim, Ophthalmology department, Norway.

Report of Case

A 53-year-old male referred by his general practitioner with suspected graft rejection due to reduced visual acuity (VA), best corrected VA with spectacles was 0.3 Snellen decimals (SD) monocularly and binocularly. The patient was unable to work as a truck driver due to visual impairment.

His medical history included a right eye Deep Anterior Lamellar Keratoplasty (DALK) in 2007, Photorefractive Keratectomy (PRK) in 2010 with subsequent herpes keratitis. Left eye corneal Penetrating Keratoplasty (PK) in 1997, PRK 2017.

Findings after right eye DALK transplant showed mild haze in the graft and a small inferior paracentral scar, with a small hypertrophic tissue area in the same region. No corneal edema was present. There was dehiscence in the graft edge at 2-7 o'clock. Status left eye PK transplant showed mild haze in the transplant (both stroma and endothelium) centrally and nasally. No infiltrates or edema were found, and there was a small endothelial split at 7 o'clock peripherally. The anterior chamber was quiet, the lens was clear, and the adjacent retina was without remarks in both eyes. In other words, the transplants were stable, with no signs of rejection.



He was successfully fitted with scleral contact lenses, achieving a VA of 0.8 and 1.0 SD right and left eye respectively. This improvement allowed him to return to work within 2 weeks. After 1 year he was fully functional with his existing grafts and scleral lenses.

Conclusion/Take Home Message

This case highlights the value of exploring non-surgical options, such as scleral lenses, before considering re-grafting, even for older grafts. Scleral lenses, which vault over the cornea and rest on the sclera, often offer excellent stability, comfort, and centration, making them ideal for patients with irregular astigmatism or uneven graft surfaces.

Financial Disclosure

None