

COMPARISSON OF CORNEAL ABERRACTION CENTRAL CORNIAL THICKNESS AND ENDOTHELIAL CELL COUNT IN ROSE K LENS AND CONVENTIONAL RGP CONTACT LENSES

Author- Fathima Mufriza

¹Vision Care Optical Services Pvt Ltd, Sri Lanka | fmufriza@gmail.com

Abstract

Introduction:

Keratoconus is a progressive corneal ectatic disorder that causes corneal thinning, irregular astigmatism, and reduced visual quality. As spectacles become less effective, RGP lenses are commonly used to improve vision. Rose K lenses, designed for keratoconic corneas, may offer better fitting, comfort, and visual performance than conventional RGP lenses. Therefore, comparing corneal aberrations, central corneal thickness, and endothelial cell count is important in evaluating their clinical effectiveness.

Objective:

This study aims to compare corneal aberrations, central corneal thickness (CCT), and endothelial cell counts in keratoconus patients fitted with Rose K and conventional rigid gas permeable (RGP) contact lenses. Methods: A comparative cross-sectional study on 100 keratoconus patients was conducted at Vision Care over one year comparing Rose K and conventional RGP lenses. Patients selected by convenience sampling were evaluated twice with a minimum six-month gap across mild, moderate and severe keratoconus stages. Corneal aberrations (KR-1W Wavefront Analyzer), central corneal thickness (HD Cirrus OCT), and endothelial cell count (Tomey EM-3000) were measured, and data were analyzed using Excel and online statistical tools.

Results:

Across all three stages of keratoconus, no statistically significant differences were observed between Rose K and conventional RGP lenses in anterior corneal curvature, central corneal thickness, or endothelial cell count. However, Rose K lenses showed a notable reduction in total corneal aberrations and a minor positive trend in CCT with no impact on endothelial cell density.

Conclusion:

Rose K lenses offer superior comfort, better aberration control, and higher fitting success than conventional lenses in keratoconus particularly in moderate to advanced stages, thereby improving quality of life and potentially delaying surgery

Access Online: <https://journal.vcademy.lk/articles/comparison-of-corneal-aberrations-central-corneal-thickness-and-endothelial-cell-count-in-rose-k-lens-and-conventional-rgp-contact-lenses>