

Management of higher-order aberrations vision of irregular cornea with specialty lenses

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Keratoglobus is a rare corneal disorder characterized by generalized thinning and protrusion of the cornea, leading to significant visual disturbances and increased higher-order aberrations (HOAs). This case report focuses on a 25-year-old male with keratoglobus and corneal opacity, who was referred for specialty contact lens fitting. The management strategy involved applying various specialty lenses, including a semi-scleral lens for the right eye and a soft customized lens for the left eye, to address the irregular corneal profile and enhance visual acuity.

Initial assessments revealed a markedly irregular corneal topography, with the thinnest point of the right cornea measuring 38 micrometers and the left cornea measuring 87 micrometers. After several fitting attempts, the semi-scleral lens improved visual acuity in the right eye from 6/90 to 6/12, while the soft customized lens enhanced the left eye's vision from 6/36 to 6/12.

This case underscores the importance of customizing lens as per k readings anterior chamber depth, type of corneal profile and lens parameters base curve sag depth lens material and characteristics in the management of keratoglobus, can provide substantial improvements in visual outcomes and patient satisfaction. The findings highlight the critical role of specialty contact lenses in addressing complex corneal conditions and the need for continued exploration of customized solutions in optometric practice. Through meticulous fitting and adjustment, patients with keratoglobus can regain visual independence, transforming their daily experiences and overall quality of life.

Biography

Moataz Nady Elhelaly has completed his BSc science in optics technology at the age of 22 years from Higher Institute of Optics Technology Egypt and he got his professional doctorate in 2023, published scientific papers about specialty lenses on general medicine open access and international scientific journals, and he is member of European Academy of Optometry and optics, England, built his experience in Kuwait with practice more than 10 years HASSAN'S OPTICIAN CO. till now and he is teaching assistant institute and held position of head training in same optical company for ophthalmic and contact lenses.

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