



# Visual outcome of fitting of Rose-K2 XL lens in a case with Terrien's Marginal Degeneration : a case report

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## INTRODUCTION

Terrien's marginal degeneration is an uncommon disease of the peripheral cornea, occurring at any age, 75% being males<sup>1</sup>. This condition may be bilateral or unilateral. Lesions usually begin superonasally rarely inferiorly with development of fine, white sub epithelial, peripheral opacities that spare the limbus. The opacities coalesce and are followed by corneal thinning, typically with a sloping central edge and a fairly steep peripheral edge to the resultant furrow. The epithelium is typically intact with yellowish white lipid deposits in the center of the gutter with associated vascularization<sup>2</sup>. Etiology is unknown, although inflammatory, degenerative, and immune mediation have been proposed. Primary corneal ectasia such as keratoconus<sup>4</sup>, or pellucid marginal degeneration<sup>5</sup>, and irregular corneas resulting from corneal surgery such as keratoplasty<sup>6</sup>, post-LASIK ectasia<sup>7</sup> or corneal ring segment implantation<sup>8</sup>, can cause high amounts of irregular astigmatism, which leads to poor visual acuity with spectacles or conventional soft contact lenses. Severe corneal distortions fitted with corneal RGP lenses result in lens decentration and/or excessive lens movement and results in poor comfort and unstable visual acuity. Furthermore, corneal RGP lenses could be associated with the onset of corneal scarring<sup>9</sup>.

## CASE REPORT

A 17 year old female presented to the OPD of B.P. Koirala Lion's Center for Ophthalmological Studies with a chief complaint of blurry vision. She provided a history of three years of spectacle wear with no history of ocular trauma or surgery. Her presenting visual acuity was 6/60 in right eye and 6/6 in left eye. Dry subjective refraction was OD: +2.00/-3.00X150 and OS: Plano.

## CASE REPORT

Undergoing a complete cycloplegic refraction her visual acuity improved to 6/18<sup>+2</sup> with +2.00/-6.00 X 150 in right eye. The patient underwent a thorough slit lamp examination which revealed a unilateral, supero-temporal circumferential corneal thinning with intact epithelium, without neovascularization, minimal lipid deposition and a clear area existing between the lesion and limbus. (Fig. 1). There was no epithelial defect noted by fluorescein staining. Keratometry was performed with a vertical meridian reading of 8.65mm (39.00DS) and horizontal meridian reading of 6.67 mm (50.50DS). The Schirmer test with Watmann filter paper revealed clinical dry eye with height of 1mm. Her corneal topography of right eye showed high amount of irregular corneal astigmatism as indicated by SimK 49.85/41.63@137, with an area of superior thinning and steepening 90° opposite to the central point of thinning which is a typical of Terrien's (Fig2). This has given rise to the high oblique astigmatism in this patient. A diagnosis of unilateral Terrien's marginal degeneration was made based on the presence of superior lesion, absence of vascularization and unilaterality. The fundus examination under mydriatics (tropicamide 0.5%) was of normal caliber. Trial of RoseK2 XL showed an excellent fit attaining visual acuity equal to 6/6. The static and dynamic fitting assessment were normal except for a small air bubble away from the visual axis (Fig3). The patient was very comfortable with the lens and was satisfied as well.

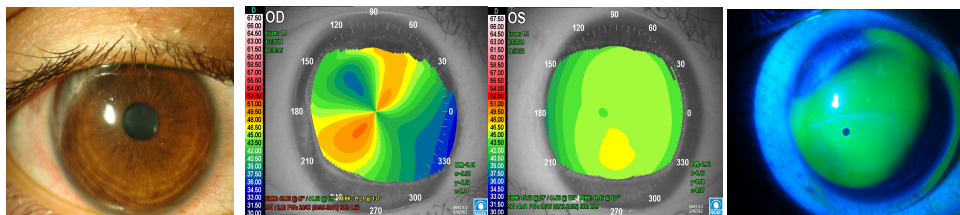


Fig1: RE superior temporal whitish lesion from 9-12 o'clock position

Fig2: Corneal topography showing high corneal astigmatism in right eye, left eye being normal

Fig3: small air bubble away from the visual axis

## DISCUSSION

Since patient had clinically dry eyes indicated by the Schirmer tear test, the conventional RGP would not be beneficial. In the present case study, the Rose K2 semi-scleral contact lens improved VA for the patient compared to spectacle correction. The semi-scleral Rose K2 XL lenses, is manufactured in tisilfocon A material (Menicon Z, Menicon Co. Ltd., Nagoya, Japan). The lens design features an aspheric optic zone and is available in 9 edge lifts (from double decreased to double increased in 0.5 steps). The trial set consisted of 14 lenses having an overall diameter ranging from 14.6 to 13.0 mm depending on the back optic zone radius (BOZR) (i.e. the diameter increases with increasing BOZR and vice versa). All lenses in the trial set came with standard edge lift. Rose K2 XL lens are fitted 0.70mm steeper than average K reading and in this case the final lens parameters were: base curve of 7.00mm, total diameter of 14.60mm, back vertex power of -6.00DS and standard edge lift.

## CONCLUSIONS

With this patient a Rose K2 XL semi-scleral contact lenses provide good vision and comfort, where a traditional RGP may have failed.

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