

Customized Silicone Hydrogel Lens-A Case Study

Pratyush Dhakal* and Amrita Samanta

Advanced College of Optometry and Health Sciences, Navi Mumbai, India

*Corresponding author: Dr Pratyush Dhakal, Department of Optometry, Advanced College of Optometry and Health Sciences, Navi Mumbai, India, E-mail: pratyush001@hotmail.com

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Abstract:

We report a case in which customized contact lens were fitted in eyes of a high hypermetropic patient. Initially patient was using a readily available contact lens but complained about not compatible with those lens. In slit lamp examination over the old contact lens revealed those lenses were too loose fit and was folding when patient blinked. The symptoms resolved after custom made silicone hydrogel lens were given to the patient. These findings indicate that customized contact lens can help in certain high refractive error patient where ready stock contact lens may not be helpful.

Keywords: Contact lens; Silicone hydrogel; Customized contact lens

Introduction

Though not of many years old customized silicone hydrogel is still in its infancy in India. We convined patient for RGP lens use but she could not tolerate it even after 1 month period [1]. Then we tried with customized Silicone Hydrogel lens with gave a very positive feedback and created new hope.

When there is a high refractive error where few patients don't readily agree to use RGPs and prefer using soft contact lens and as a practitioner you see there is no significant astigmatism to prescribe for RGP then you bound to use contact lens of limited power [2-4].

A young patient of age 21 came to our clinic for her regular eye checkup and had a enquiry if she could get rid of glasses. After her refraction we found she had High hypermetropia amounting +11.00/+1.00 × 180 in both eyes with best corrected visual acuity of 20/40 in both eyes as well. She had a history of using contact lens which she was very uncomfortable using [5]. The patient had no significant ocular history, such as trauma, amblyopia or strabismus and no family history of keratoconus [6]. Patient was earlier using contact lens which was very much uncomfortable and she wished if her thick glasses could be removed permanently. Owing to her request she was advised to undergo corneal topography, pachymetry and A-scan.

A complete ophthalmologic examination was unremarkable, Placido disc based corneal topography (Alcon) revealed steep corneal surface. This area appeared suspicious; especially the keratometric diopter average was 49.6 in right eye and 49.3 in left eye. Topography stated the patient has abnormal cornea curvature but no any thinning or keratoconus suspect [6]. Corneal pachymetry was 526 and 528 in right and left eye respectively. Her length showed just 17.16 mm in right eye and 17.12 mm in the left eye which explains her high hypermetropia. Her anterior chamber (A/C) depth was 3.53 mm in right eye and 3.54 mm in left eye (Figure 1).

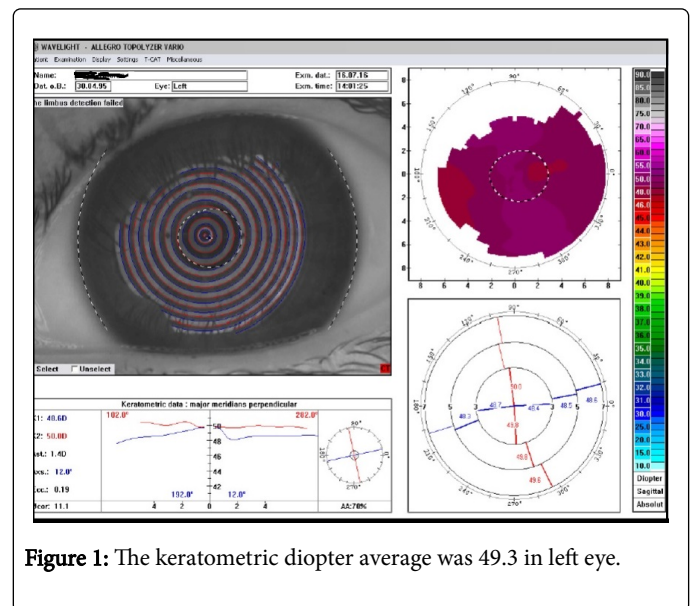
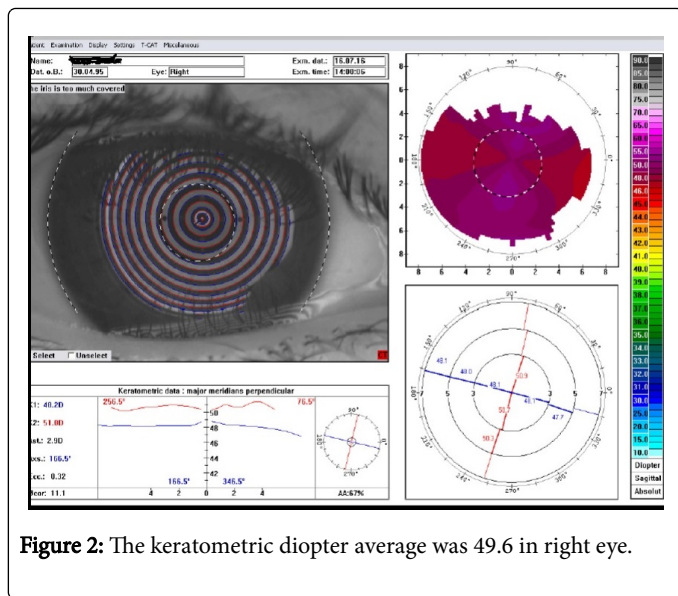


Figure 1: The keratometric diopter average was 49.3 in left eye.

After seeing her report doctor explained various options she could have to remove her glasses temporarily or permanently. She was explained about customized contact lens, Clear lens extraction with multifocal intraocular lens. When her IOL power was calculated in both eye we found it to be approximately +40 D in both eye under SRK-T with 118 A-constant [7]. Since there was no cataractous changes in crystalline lens she was asked to wait for CLE and explained about piggy back IOL can be useful given +40 D lens is not available in Indian market. Since she was very much keen on removing glasses she was explained how a CONTACARE made customized contact lens would her to get freedom from the glasses temporarily (Figure 2).



A custom made silicon hydrogel contact lens was advised to the patient in detail and she agreed to use it. A customize lens was ordered of following measurement (Table 1).

	Right eye	Left eye
POWER	13.5	13.5
BASE CURVE	7.7 mm	7.7 mm
DIAMETER	14 mm	14 mm

Table 1: The final measurement of the contact lens ordered.

After when her new contact lens fitted in her eyes it was very much well fitted and she was very happy with the fit and comfortability of the new lens. Her visual acuity with the contact lens was 20/40, N6 in both eyes. After 1 week of follow-up the patient was happy and satisfied with the new lens [8-14].

Discussion

In case presented the amount of hypermetropia is very high. Thus wearing such a thick glasses at any age would not be very comfortable to any patient [15-17]. Thus it is obvious that patient would be very much eager to remove their glasses either temporarily or permanently. Given her age is just 21 CLE with multifocal piggy back IOL could not be considered. That could have been done if patient was 10-15 years older [18].

In this case we found some new things related to hypermetropia. The 1st thing we notice was AC depth which is normal even the

hypermetropia is high. The AC depth as mentioned earlier was in normal range [19]. The 2nd thing we noticed that given the cornea is so much steeper there was no keratoconic changes or thinning for cornea [20].

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