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Letter to the Editor

Response to "Kerasoft IC compared to Rose-K in the management of corneal ectasias"

The recent article published in CLAE August issue by Fernandez-Velazquez [1] compares the advantages of using silicone hydrogel Kerasoft-IC vs. RoseK GP contact lenses in two groups of subjects diagnosed with corneal ectasias. Visual performance was evaluated by measuring high contrast visual acuity (VA). The study also addressed biomicroscopic findings, such as corneal staining. In my opinion, the design of the study (i.e. selection of the two groups) and data analysis may, perhaps, be biased towards the performance of a specific product, resulting to misleading conclusions.

The author admits that a weakness of the study was the heterogeneity of the patient population. This is an important issue because the selection of GP lenses for fitting keratoconus/irregular corneas is usually empirical, based on keratoconus progression and the location, shape and size of the cone [2]. To achieve optimal fitting with Kerasoft-IC lenses, the author employed a set of the eight diagnostic lenses available in the fitting toolkit [3], with different base curves and peripheral radii. However, for the RoseK group, the fitting procedure did not follow the systematic approach by using the four designs [i.e. ROSE K2, ROSE K2 NC (nipple cone), ROSE K2 IC (irregular cornea), ROSE K2 Post Graft] recommended by the RoseK2 fitting guide [4,5] for optimal fit and improved visual performance. This hints that more than 55% of patients were not fitted with the best lens design (30/77 of cases were nipple cones–12/77 of cases were diagnosed as Pellucid Marginal Degeneration). Moreover, it is not clear in the methods whether the lenses used were of the RoseK2 design introduced in 2005 [6], which provides aberration control optics and has certain advantages over the original RoseK design.

Furthermore, it is evident from Table 2 that the K readings were significantly steeper in the eyes underwent RoseK compared to the Kerasoft-IC fitting, by 1.72 D and 1.10 D for the flattest and the steepest meridian, respectively. The cited *P* values (of 0.10 and 0.08) do not reach statistical significance but such differences cannot be ignored. This suggests that on average cases with more advanced stages of keratoconus were included in the RoseK group.

Finally, according to the author, VA was "measured with a computerised eye acuity chart . . . recorded up to 1.0 in decimal (0.00 in log MAR)". Since acuity is expected to be better than 6/6 in many of the eyes corrected with CLs, this would result to an asymmetric (negative skewed) probability distribution, raising important issues on the interpretation of the average values reported in the article. Nevertheless, it is well known that high-contrast VA does not differentiate the visual experience among keratoconic patients managed with various contact lenses. In an attempt to better describe the optical performance in keratoconus other tests, such as low contrast acuity, contrast sensitivity and forward light scatter, are recommended [7,8].

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S. Plainis[a,b,*]
[a] *Institute of Vision & Optics (IVO), School of Health Sciences, University of Crete, Greece*
[b] *Faculty of Life Sciences, University of Manchester, United Kingdom*

* Correspondence address: Institute of Vision & Optics (IVO), School of Health Sciences, University of Crete, 71003 Heraklion, Greece.
Tel.: +30 2810394807; fax: +30 2810394653.
E-mail address: plainis@med.uoc.gr

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