Reviewer’s report

Title: Comparison of Visual Results and Higher-order Aberrations After Small Incision Lenticule Extraction (SMILE): High Myopia vs. Mild to Moderate Myopia

Version: 0 Date: 04 May 2017

Reviewer: Mercè Morral

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The purpose of the study as described by the authors is to compare the refractive results and HOAs after SMILE in high myopia and mild to moderate myopia. However, no statistical work-up is performed in the results section comparing HOAs.

1. Methods section of the abstract: describe type of study

2. Results section of the abstract should include p-values. Also, specify the level of UDVA reported in "It was found that 77% and 98% had an UDVA...."

3. Introduction needs a rewrite in terms of English language. Also, references on HOAs studies after SMILE are missing. Some examples:

Comparison of ocular higher-order aberrations after SMILE and Wavefront-guided Femtosecond LASIK for myopia.
BMC Ophthalmol. 2017 Apr 7;17(1):42.

PMID: 28396804 Free PMC Article

Corneal Higher-Order Aberrations of the Anterior Surface, Posterior Surface, and Total Cornea After SMILE, FS-LASIK, and FLEx Surgeries.
Wu W, Wang Y.
4. The authors state that only patients that attended the 3-month postop appointment were included. How many patients were lost to follow-up?

5. "Only measurements in eyes with a pupil of 6.0 mm or larger were included" How many eyes were excluded for the HOAs analysis? Did the authors consider dilating the pupil to measure ocular aberrations?

6. Statistical analysis: considering that this is, in theory, a prospective comparative study, sample size calculation should be performed for the main outcome measure, at least. Which one is the main outcome measure? Was sample size calculation performed? Please, clarify and discuss.

7. Table 2 may be omitted. Cumulative UDVA and CDVA graph is more relevant when reporting visual acuity after refractive surgery.

8. As mentioned before, the authors intend to perform a comparative study. The statistical analysis to compare the induction of HOAs between groups should be more clearly reported, including p-values. Moreover, table 3 is too crowded and there is too much data. In my opinion, preoperative and 3-month postop values are enough. Title of table describes "aberration changes". Does this mean that the value depicted under 1-month and 3-months postop is the change in HOAs or the mean value at that time-point? Please, clarify.

9. Page 14, lines 233-239: "In this study, mild DLK (diffuse lamellar keratitis) was observed only in four eyes at one day, postoperatively. After using topical fluorometholone 0.1% ophthalmic solution, DLK .... at the 3-month follow-up” belongs to the results section

10. Figures are of poor quality and difficult to review
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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