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: 29 Apr 2017

Reviewer: Manuel Rodríguez-Vallejo

Reviewer's report:

The authors present a good work with an analysis of high order aberrations depending on the refractive error degree. I would like to congratulate authors for this work and to suggest some constructive modifications in order to improve the manuscript.

Page 3. Line 47. It has not been clinically demonstrated yet that SMILE is biomechanically superior than LASIK or FS-LASIK therefore I suggest to modify by "SMILE theoretically has benefits…” and to cite a recent paper about corneal biomechanics in SMILE and the problem of confounding variables such as intraocular pressure or corneal thickness.


Page 8. Table 1. Please specify in the table title (mean±SD and range). Furthermore change "center cornea thickness" by "central corneal thickness" and "introocular pressure" by "intraocular pressure".

Page 8. Line 138. Modify "log MAR" by "logMAR" and along the text each time that is repeated.

Page 8. As the authors include visual acuities at 1 day and 10 days it would be interesting to include a new section named visual recovery on which they include the percentage of eyes that achieve UDVA and CDVA of different levels at one day and ten days and if there were differences among groups.
Page 8. Line 155. Exactly the same mean and standard deviation for safety in both groups? Please, recheck for ensuring that this is not a mistake.

Page 9. Line 159. Authors report "None of the patients had severe corneal complications". Please include any adverse event without qualifying the severity that has happened as it is later detailed in the discussion.

Page 10. Line 178. According to the table 1, I understand that there was an increase of coma and spherical aberration in comparison to preoperative values in both groups, but differences between groups were only significant for the spherical aberration but not for the horizontal coma. Despite of including this information in the table, please include in the text what happens specifically for coma and spherical aberration which are the most important aberrations for which you can apply comparison with other papers in the discussion.

Page 15. Line 261. Correct FELx by FLEx in this line. This mistake is repeated along the text.

Page 16. Line 275. Another limitation of the study is that both eyes have been included in the statistical analysis. This is a common mistake in ophthalmology research since the variance between eyes is usually less than that between subjects, the overall variance of a sample of measurements combined from both eyes is likely to be an underestimate of the true variance resulting in an increased risk of a Type 1 error.

Please, specify this limitation in the text and cite this reference.


Page 16. Line 277. I suggests to compute the statistical power almost for high order aberrations, which is the most valuable information of the paper, instead of specify that a larger sample size is required in order to demonstrate that sample size is enough for the hypothesis of differences in the increase of high order aberrations, especially for coma and spherical aberration.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

Yes

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

Yes

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:

Acceptable

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