Reviewer’s report

Title: Laser in situ keratomileusis for astigmatism of 0.75 diopter or less combined with low myopia: A retrospective data analysis

Version: 1 Date: 25 September 2013

Reviewer: MIGUEL MALDONADO

Reviewer’s report:

Major Compulsory Revisions

The main limitations of the current study are that, despite a 4–month follow-up is reasonable, a longer follow-up is required to come to the final conclusion of the manuscript, and that the patients attending the last visit represent a serious selection bias as opposed to those who did not return for further assessment early after surgery. Therefore, in the ABSTRACT, the authors should state what percentage of patients completing the study, as opposed to those lost of follow-up, comprised the 153 subjects. Also the term “medium-term results” should be clearly included throughout the entire abstract and manuscript.

Moreover, the orientation of the paper is poor: most of the registered with-the-rule astigmatism is likely to arise from a superiorly-hinged flap, so that the paper should be fully rewritten right from the title to the last sentence of the conclusion in the abstract and text to include the concept of “superiorly-hinged LASIK”

Minor Essential Revisions

ABSTRACT

The conclusions should state clearly whether the overcorrection is expected to occur in the sphere or in the cylinder or both.

MATERIAL AND METHODS

The authors should state how many eyes were ablated with the 200 and 400 models. The result of this comparison should be given in the RESULTS section and not in MM.

The authors should state how they measured mesopic pupil size and also the criteria following it to choose a 6, 6.5 or 7-mm OZ.

It is dubious that the cylinder-sphere coupling effect is taken into account in astigmatism correction under 1 diopter with the Allegro excimer laser platform. Similarly, it is doubtful that the laser produces any compensation for ablation time for sphere under 4 diopters. The authors should confirm all these points before sending the final draft.

In MM and RESULTS it should be stated more clearly if all the refractive cylinder data are provided with plus or negative cylinder refractions.
RESULTS
Patients (absolute numbers and percentages) lost of follow-up should be clearly stated.

DISCUSSION
The analysis of the cylinder axis reveals a tendency towards an induction of with-the-rule astigmatism, which can be related most likely to the direction of the microkeratome cut and the position of the flap hinge (superior, as opposed to nasal). This should represent the core of the discussion, which is not centered on this now (it is mentioned scarcely).

Also, the authors should seek details of a similar studies on correction of low myopic astigmatism with surface ablation techniques (PRK, LASEK, ASA,…) to make more thorough comparisons. The authors should discuss this aspect in depth because it may well be one of the main conclusions of the present study: in low astigmatic refractions, surface ablation techniques may be more appropriate in that they are more accurate (induce less astigmatism) than LASIK with microkeratome.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.