Reviewer’s report

Title: Comparison of outcomes after topography-modified refraction versus wavefront-optimized versus manifest topography-guided LASIK

Version: 1 Date: 19 Feb 2020

Reviewer: Nauman Hashmani

Reviewer's report:

Introduction

1. I'm not sure if conventional TG-LASIK is the appropriate term. I would label it Manifest TG LASIK as the current recommendation even out of Alcon are not of Manifest TG LASIK. If anything the conventional TG LASIK would be the "modified TMR" Alcon introduced.

2. The FDA study was NOT the first study of the Contoura Platform. However, the FDA platform was the first to study this platform on virgin eyes. The second sentence in your introduction requires alteration.

3. I am unsure what the author is trying to communicate in that second sentence. It needs reworking.

Methods

1. There is no mention in the methods whether these are virgin eyes undergoing primary procedures or do these include eyes that been previously operated on.

2. You mention this is a retrospective study yet you also mention the surgical protocol was randomly determined? If there was randomization taking place would this not be a prospective study? Additionally, how did this randomization take place?

3. You mention that you did corneal topography and corneal wavefront analysis at all followups. Are these not the same test? Topography simply gives you higher order aberrations as a derivation of curvature and it is not a true wavefront analysis. I would remove this point.

Results

1. It is interesting to note that despite superior results in the "conventional" group, the TMR group has more eyes. Is there any reason for this?
Discussion

1. The 3rd paragraph of the discussion is largely a restatement of the results. A discussion provides further insights into the results by way of comparison with different studies and a chance for the author to present his own viewpoints. Please refrain from repeating the results.

2. The author points out that astigmatic overcorrection occurs in eyes with CA > RA. It would be beneficial if the author would point out why they think this is.

Overall, I feel this a strong study with a proper analysis in topography guided eyes given that the above concerns are addressed. Additionally, I feel this manuscript would benefit for English editing services. I would recommend this study for publication as it does confirm what the Wallerstein study initially suspected. I would like to congratulate the authors.

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.

Unable to assess

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

Quality of written English
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