Author’s response to reviews

Title: Clinical outcomes after mix-and-match implantation of diffractive multifocal intraocular lenses with +2.75 and +4.00 diopter add powers

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Version: 1 Date: 14 Apr 2020

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Reviewer reports:
Jack C M Ng, MPH (Reviewer 1): Overall comments:
The paper is well written and provides new findings on the topic. However, the authors are recommended to provide more details of the methodology in the Methods Section to support the internal validity of the study, especially it is of a retrospective design.

\ We appreciate your comment and with your specific comments, we provided more details in the methods section, especially with comparison to bilateral monofocal IOL implantation group.

Specific comments:
1. p.4 line 89: "This retrospective study included 18 patients who…" The number of patients should not be reported here. A general approach is to mention "This retrospective study included (all) patients who…", followed by inclusion and exclusion criteria as the authors did.
   \ We appreciate your comment and corrected the sentence.
2. p.4 line 90-92: can you provide a bit more details on ZMB00 and ZKB00? I guess not all the readers are aware of its design, especially it is a bifocal, diffractive type of multifocal IOL with 50/50 light distribution, independent of pupillary size.
   \ We appreciate your comment and added information about the lenses.
3. P.4 line 97: recommend to remove "from the analyses" if it does not have special meanings and for consistency of wordings with line 95 inclusion criteria.
   \ We appreciate your comment and corrected the sentence.
4. P.4 line 97-109: is there any missing data from the retrospective record review that should be excluded from the analyses?
   \ Two subjects were excluded from the retrospective record review because they had refractive surgery before. Also we added this explanation to the manuscript.
5. p.5 line 119: "near VA was measured at 33, 40, and 50 cm, with near VA expressed as the average of VA at these distances". Is there any ground or previous reference for this? Or authors may provide further explanation of this method.
In many previous studies, near VA was measured only at 40 cm.1,2 But we focused on that there were
delicately different needs for near target distance in various situations such as reading books or
watching mobile phones, therefore, we defined near VA more broadly as the average VA at 33, 40, and
50 cm in this study. Also we added this explanation to the manuscript.
1> Son HS, Kim SH, Auffarth GU, Choi CY. Prospective comparative study of tolerance to
refractive errors after implantation of extended depth of focus and monofocal intraocular lenses with
2> Yoon SY, Song IS, Kim JY, Kim MJ, Tchah H. Bilateral mix-and-match versus unilateral
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6. p.6 line 125: (1) was the contrast sensitivity measured under uncorrected condition? (2) Was both
monocular and binocular contrast sensitivity curves were measured?
◊ Contrast sensitivity was measured under uncorrected condition, and we added the comment. And
monocular contrast sensitivity was measured in each eye, but binocular contrast sensitivity was not
measured.
7. p.6 line 140-152: was the bilateral surgery performed simultaneously or sequentially on different
days? Please specify.
◊ The dominant eye was first implanted with Tecnis +2.75 D multifocal IOL (ZKB00), and one week
after surgery in the dominant eye, Tecnis +4.00 D multifocal IOL (ZMB00) was implanted in the non-
dominant eye. Also we added this comment in the manuscript.
8. p.7 line 155: range should be provided in text and tables.
◊ We appreciate your comment and added ranges in text and tables.
9. p.8 line 192-195: what does it mean by "good" contrast sensitivity? In the Results Section, more
objective presentation like reporting the values is recommended. Comments shall be made in
Discussion Section by comparing with norms/previous studies.
◊ We appreciate your comment and removed the ambiguous word “good” in the result and discussion
section. Also we added reference and comments about the contrast sensitivity.
10. p.11 line 244-247: the CONCERTO study is one of the very first studies that used monovision
approach with multifocal IOL. I think it is worth crediting it in the Introduction Section.
◊ We appreciate your comment and added the comment in the background section.
11. Table 1-4: please provide the ranges.
◊ We appreciate your comment and added ranges in text and tables.
12. Figure 2: (1) what is the unit in the y-axis? (2) please revise the x-axis as "spatial frequency, CPD"
(3) why isn't there a binocular contrast sensitivity curve, which is not specify in Methods Section?
◊ (1) We appreciate your comment and changed the unit in the y-axis as “contrast sensitivity (log)”. (2)
We appreciate your comment and revised the x-axis as “spatial frequency, CPD”. (3) Unfortunately
binocular contrast sensitivity was not measured, and we added this comment in methods section.

Hakan Kaymak (Reviewer 2): Dear author,
you paper is on the clinical outcomes after mix-and-match implantation of mIOL:
- As it might be required by the journal, please add a control group to your results. This control group
can be the results of visual acuity testing of patients after bilateral monofocal IOL implantation.
◊ We appreciate your comment and added a control group of bilateral monofocal IOL implantation.
First we matched preoperative characteristics between the groups not to make a bias, and then we
analyzed each group and compared each other. However, there were some differences between the
protocols of the multifocal and monofocal IOL patients and we explained it in the method section.
- Is there literature available for your first written paragraph in the "Background" chapter?
◊ We appreciate your comment and added the references in the first paragraph of the “Background”
chapter.

- Please use a log scaling for the contrast sensitivity chart and be more precise in the interpretation of your results for contrast sensitivity. The shown charts cannot be compared with common data.

◊ We appreciate your comment and changed the unit in the y-axis as “contrast sensitivity (log)” and the x-axis as “spatial frequency, CPD”.