Author’s response to reviews

Title: Ocular Size and Shape in Lens-Induced Myopization in Young Guinea Pigs

Authors:
Li Dong (470217619@qq.com)
Xu Shi (sxh1215@163.com)
Yi Kang (345890335@qq.com)
Wen Wei (weiwenbintr@163.com)
Ya Xing Wang (yaxingw@gmail.com)
Jost Jonas (jost.jonas@medma.uni-heidelberg.de)

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Changes Made in Response to the Reviewers´ Comments

(Re.: BOPH-D-19-00042R1: Ocular Size and Shape in Lens-Induced Myopization in Young Guinea Pigs)

Reviewer reports: Jian Li, MD, PhD (Reviewer 1): The present study assessed the relationship of axial elongation and coronal diameters change in guinea pigs during lens-induced myopization. They found that the ocular enlargement occurred mainly in sagittal direction. The manuscript was well organized. However, there are several points need to be clarified before considering for publication:

1. Reviewer: Please specify the calculation for a sample size of 70 animals in this study.

Our response: It has been added to the revised Methods section: “The estimation of the sample size of 70 animals for this study was based on the experiences made in previous investigations with a similar study design and also applying the model of lens-induced axial elongation, in which a similar total sample size of about 70 animals was associated with significant differences in axial elongation between a study group and control group.” (Page 3, line 103)
2. Reviewer: 2. In vitro experiments may be not necessary for the measurement of ocular diameters. The authors are recommended to discuss the in vivo methods.

Our response: The revised manuscript does not contain any aspects of in-vitro (laboratory) experiments, so that only in-vivo procedures or the direct measurements of the globe dimensions have been described and discussed.

3. Reviewer 1: 3. The animal model of lens-induced myopization was well established for many years. In the current study, the difference of axial length between experimental group and control group was quite small even it showed a statistical significant (8.96 ± 0.15 mm versus 8.84 ± 0.14 mm; P=0.001). The authors are encouraged to discuss the previous work with the same animal model and compare the experimental outcomes.

Our response: It has been added to the revised Discussion: “The animal model of lens-induced myopization has been well established for many years. In the current study, the difference in axial length between the experimental group and the control group was statistically significant (8.96 ± 0.15 mm versus 8.84 ± 0.14 mm; P=0.001), however relatively small. The difference of 0.12 mm in axial length between both groups compared well with the observations made in other investigations with a similar study design. In one of these studies, the difference between eyes of young guinea pigs with goggles and those without goggles was 8.88 ± 0.08 mm (study group) and 8.67 ± 0.09 mm (control group) (P=0.002) [13]. In another investigation, the study and control group differed in axial length from 8.93 ± 0.06 mm to 8.76 ± 0.03 mm [26]. In guinea pigs with unilateral lens-induced axial elongation, axial length differed between both eyes from 8.93 ± 0.06 mm to 8.73 ± 0.03 mm [26]. A difference similar to the one found in our study was reported in a study by Xiao and colleagues in which guinea pigs with lens-induced myopization (7.89 ± 0.06 mm) and guinea pigs of a control group (7.75 ± 0.04 mm) differed in axial length by 0.14 mm [27].” (Page 6, line 217)

4. Editorial Office: If improvements to the English language within your manuscript have been requested, you should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use any reputable English language editing service. We can recommend our affiliates Nature Research Editing Service (http://bit.ly/NRES_BS) and American Journal Experts (http://bit.ly/AJE_BS) for help with English usage. Please note that use of an editing service is neither a requirement nor a guarantee of publication. Free assistance is available from our English language tutorial (https://www.springer.com/gb/authors-editors/authorandreviewertutorials/writinginenglish) and our Writing resources (http://www.biomedcentral.com/getpublished/writing-resources). These cover common mistakes that occur when writing in English.
Our response: Although improvement to the English language of the manuscript were not requested, the whole manuscript has been re-edited by an author fluent in English to improve the English in style and grammar.

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Declarations

- Ethics approval and consent to participate
- Consent to publish
- Availability of data and materials
- Competing interests
- Funding
- Authors' Contributions
- Acknowledgements

Our response: In the revised manuscript, all parts of the Declarations section have been given at the end of the main text prior to the References section.
The authors would like to thank the reviewers and editors for the constructive and helpful comments to improve our manuscript and study.