



Reply to Letter to the Editor re: “The Relationship Between Keratoconus Stage and the Thickness of the Retinal Layers”

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Dear Editor,

We would like to thank the authors for their comments and evaluation of our study.¹ As mentioned in the study, patients with myopia above 6 diopters and axial length greater than 26 mm were excluded in order to prevent the potential confounding effect of the optical defocus that might be caused by high myopia and the stretching effect on retinal layers. Liu et al. found that there was a difference in the thickness of the retinal layers in the peripheral macular region of eyes with high myopia compared to the emmetropic control group.² However, high myopic eyes were not included in our study, and a central 1 mm macular area, not the peripheral macular region, was analyzed. As stated in our study, the groups had statistically similar demographic characteristics and axial length values. We would also like to emphasize again that the spectral domain optical coherence tomography (SD-OCT) imaging of the groups was performed by a single nurse at similar times of the day to avoid possible diurnal variation.

We welcome the authors' mention of the Stiles-Crawford phenomenon, which may have a long-term effect on the thickness of the retinal layers of patients with keratoconus (KC), and the photostasis adaptation of photoreceptors. However, we would like to point out that the Stiles-Crawford phenomenon is more related to the directional sensitivity of the retina and the proper alignment of the receptors. It has been

reported that high astigmatism may cause possible changes in peripapillary measurements due to elliptical distortion of the retinal image in different meridians,³ but segmentation measurements obtained from the central macular region are quite reliable.⁴

We thank the authors for their possible neurophysiological explanations/contributions that may have an impact on retinal layer thicknesses in KC patients. We think that the changes we observed in the inner nuclear layer and retinal pigment epithelium layer are closely related to the stage of KC disease, since there is no evidence to go beyond the assumptions of additional neurophysiological explanations and the KC groups had similarly low myopic refractive errors.

Authorship Contributions

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References

1. Özsaygılı C, Yıldırım Y. The Relationship between Keratoconus Stage and the Thickness of the Retinal Layers. Turk J Ophthalmol. 2021;51:75-82.

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2. Liu X, Shen M, Yuan Y, Huang S, Zhu D, Ma Q, Ye X, Lu F. Macular Thickness Profiles of Intraretinal Layers in Myopia Evaluated by Ultrahigh-Resolution Optical Coherence Tomography. *Am J Ophthalmol*. 2015;160:53-61.
3. Hwang YH, Lee SM, Kim YY, Lee JY, Yoo C. Astigmatism and optical coherence tomography measurements. *Graefes Arch Clin Exp Ophthalmol*. 2012;250:247-254.
4. Oberwahrenbrock T, Weinhold M, Mikolajczak J, Zimmermann H, Paul F, Beckers I, Brandt AU. Reliability of Intra-Retinal Layer Thickness Estimates. *PLoS One*. 2015;10:e0137316.