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The optical coherence tomography angiography study on paediatric COVID-19 cases

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Dear Editor,

We read with interest the research article entitled "Retinal microvascular and perfusional disruption in paediatric COVID-19: A case-control optical coherence tomography angiography study" [1], it was a cross-sectional study on choroidal structural and vascular changes on paediatric COVID-19 subjects. We are particularly interested in the possible confounding on the optical coherence tomography angiography (OCT-A) measurements.

Firstly, we appreciated Zengin and Güven for recording the autorefraction measurement values of all patients [1], however these data were not presented. High myopia subjects were not excluded according to the primary study's methodology [1]. Refraction, with and without cycloplegic, or more precisely the axial length is proven by different large paediatric ophthalmology cohorts to have statistically significant effects on the macular and choroidal parameters on OCT-A [2,3,4,5].

Secondly, choroidal parameters are subject to diurnal changes [6]. Standardization on the specific time of the day for carrying out the OCT-A measurements in both the case and control groups were not mentioned in the primary study. Authors mentioned that no COVID-19 patients required intubation or paediatric intensive care, does this imply that those COVID-19 subjects were managed as in-patient? In-patient subjects and out-patient controls may behave differently, such as the face mask wearing practice, and sick kids are generally less physically active [7]. As a general public health measures, face mask is essential to prevent COVID-19 transmission. Were COVID-19 subjects on more prolonged face mask wearing, or even required N95 level of masks? Respirator use and their associated hypercapnia would both potentially affect the choroidal parameters measured on OCT-A [8,9].

Concerning the vessel density (VD) and perfusion density (PD), which were not normally distributed data, there were no statistical significance for the centre VD and PD. However, the central foveal thickness and foveal avascular zone were significantly different. What are the possible reasons behind these observed discrepancies regarding the same anatomical area?

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nil

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