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Letter to the Editor

Methodological concerns on retinal and choroidal thickness variations measured by optical coherence tomography in patients with epilepsy

To the Editor

We read with great interest the original article entitled "Comparison of optic coherence tomography results in patients with diagnosed epilepsy: Findings in favor of neurodegeneration" recently published in your journal by Tak et al. [1].

In this study, the authors compared the retinal nerve fiber layer (RNLF), the ganglion cell layer (GCL), inner-plexiform layer (IPL), and choroid thicknesses between patients diagnosed with epilepsy and healthy subjects by adopting optical coherence tomography (OCT) [1]. Although they should be congratulated for the prospective nature of the study and for having found a statistically significant difference in RNFL, GCL, IPL, and choroidal thicknesses in the subjects with epilepsy as compared with the control group, we would like to point out some methodological concerns from an ophthalmological perspective.

Firstly, the authors adopted a Spectral Domain (SD-OCT) device, in order to measure retinal and choroidal thicknesses; however, the Swept-Source (SS-OCT) device has shown a better accuracy in identifying the sclerochoroidal border as compared with the SD-OCT, and thus, the authors should have considered this latter as a first choice for choroidal thickness measurements, in order to improve the reliability of the results obtained [2].

Secondly, the authors did not specify if during the complete eye examination, they performed an ocular biometry measurement, including important parameters like axial length; in fact, this latter parameter has been proven to act as an independent variable modifying RNFL thickness [3]. Thus, we deem that an ocular biometry examination should have been performed by the authors, in order to exclude a possible non-negligible confounding factor such as axial length.

Thirdly, in the exclusion criteria, it was not taken into consideration the smoking status of the patients; however, it has been reported that smoker subjects have significantly decreased RNFL thickness as compared with age-matched healthy subjects [4]. Hence, we think that they should have considered the smoking status of the enrolled subjects as another possible confounding factor.

Lastly, they did not specify if the SD-OCT scan was obtained during the same part of the day for both the studied groups; in this regard, it is well known that choroid thickness is subjected to circadian non-negligible variations that are supposed to be related to hormonal changes during the day, which should not be neglected [5]. Hence, we think that the authors should better explain when the ophthalmological examination was performed, in order to rule out another important confounding factor in the study.

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Conflicts of interest

Lorenzo Ferro Desideri, Fabio Barra, and Simone Ferrero declare that they have no conflicts of interest.

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