



Letter to the Editor

The importance of avoiding confounding factors when measuring choroid by optical coherence tomography in psychotic patients


We read with interest the article entitled “A pilot study assessing retinal pathology in psychosis using optical coherence tomography: Choroidal and macular thickness” recently published by Joe et al. (2018) in your journal.

In this pilot study the authors analyzed macular and choroidal thickness using spectral domain optical coherence tomography (SD-OCT) in patients with psychosis (either schizophrenia or bipolar disorder) and found a significant thinning of macula and a non-significant decrease in choroidal thickness in the examined group in comparison with age-matched healthy subjects (Joe et al., 2018). Although they should be congratulated for having studied first, to the best of our knowledge, choroidal thickness variations in patients with psychosis, we would like to point out some methodological concerns from an ophthalmological perspective. Firstly, the authors did not clarify if they performed the SD-OCT examination at the same time of the day both for the 6 patients with psychosis and for the control group. In this regard, several studies revealed that choroid is subjected to diurnal variations in its thickness, probably due to circadian hormonal changes modifying the blood supply of this tissue (Tan et al., 2016). Thus, we deem that more information about the timing of the examination should have been provided for both the groups.

Secondly, the authors did not specify if, beside reporting the ophthalmological medical history, they performed a complete ophthalmological examination including slit-lamp biomicroscopy, retinoscopy, tonometry measuring intraocular pressure (IOP) and, nonetheless, ocular biometry. In this regard, the Beijing Eye Study examined 3468 healthy subjects using SD-OCT and reported that choroidal thickness varied significantly in relation to ocular parameters such as a deep chamber, a thick lens and to axial length (Wei et al., 2013). Moreover, also the refractive status of both the groups has not been reported; however, it is well known that even low myopic eyes (1 diopter or more) are characterized by a thinner choroid in comparison with emmetropic eyes (Wei et al., 2013). Hence, the authors should have provided more data on the ophthalmological examinations performed, in order to rule out possible confounding factors when measuring retinal and choroid thickness.

Thirdly, the authors did not report any information about the drugs given to psychotic patients; in this regard, typical antipsychotic drugs have been shown to be associated with uveal tract disorders and, nonetheless, it is known the positive association between phenothiazines and pigmentary retinopathy (Richa and Yazbek, 2010). Thus, we deem that this could represent a limitation of the study, since the administration of antipsychotic drugs could have altered the findings in

the study.

Lastly, we agree with the authors' statement considering the higher prevalence of diabetes in the psychotic group a possible confounding factor, because choroid has been proven to vary significantly in diabetic patients without clinical signs of retinopathy (Melancia et al., 2016). In conclusion, we think that these preliminary results should be confirmed in a larger sample of patients, not neglecting the importance of a correct screening and a complete eye examination in order to limit the possible confounding effect of the above-mentioned risk factors on retinal and choroidal thickness.

Conflict of interests

The authors reported no conflicts of interest.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.psychres.2018.05.071](https://doi.org/10.1016/j.psychres.2018.05.071).

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