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

Lorenzo Ferro Desideri , Fabio Barra , Simone Ferrero

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To the Editor,

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 [1] et *al*. 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 [1].

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 [2]. 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 lenght[3]. Moreover, also the refractive status of both the groups has not been reported; however, it is well know that even low myopic eyes (1 diopter or more) are characterized by a thinner choroid in comparison with emmetropic eyes [3]. 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 [4]. 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 [5]. 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.

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Authors: Lorenzo Ferro Desideri *[1,2] MD, Fabio Barra[1,2] MD, Simone Ferrero[1,2], MD, PhD,

1 Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genoa, Italy
2 Academic Unit of Obstetrics and Gynecology, Ospedale Policlinico San Martino, Largo R. Benzi 10, 16132, Genoa, Italy

Corresponding author:
Lorenzo Ferro Desideri, MD

Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genoa, Italy

Mobile 0039 3452632604 e-mail: lorenzoferrodes@gmail.com

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