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METHODS • LETTER TO THE EDITORS

Choroidal vascularity index in obstructive sleep apnea syndrome

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Dear editor,
We read with great interest the article by Ozcan et al. concerning choroidal vascularity index in obstructive sleep apnea syndrome [1].

We congratulate the authors for their very interesting study, but we would like to make some comments. We were a bit surprised to read that patients' choroidal thickness was reduced and choroidal vascularity index (CVI) was unchanged. CVI represents the ratio between vascular lumina area and total choroidal area, and it is obtained converting an image from gray scale into a binary image which has only black and white pixels. CVI has been largely used in the international literature [2] but, in our opinion, it has a limitation because it can be influenced by the so-called blooming effect. This effect, well known in the echographic field, is an artifact, related to the signal amplification, that makes difficult to obtain reliable measurements of the examined structures, mainly if they are very small as in the case of ocular and orbital structures [3–5]. In particular when high signal amplification is used, the image will appear brighter and the amount of white pixels will be greater, and the opposite will happen using a low setting. This artifact seems to be present also in the case of OCT.

We are afraid that this effect could also influence the binarization utilized in the CVI evaluation, increasing the low reflective areas, considered to be the luminal ones, when the amplification is low, and reducing them when the amplification is higher.

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