

Letter to the Editor: Changes in Choroidal Vascularity Index in Intermediate Uveitis

We read with great interest the article titled “Changes in Choroidal Vascularity Index (CVI) in Intermediate Uveitis” by Wijak Kongwattananon et al.¹

We congratulate the authors for their very interesting study, but we would like to make some comments about this work. Choroidal evaluation has been widely used in several conditions.²

In this article, the authors used the CVI. This index was first described by Agrawal in the attempt to better distinguish the luminal from the stromal area and it represents the ratio between vascular luminal area and total choroidal.³

Since then, CVI has been largely used for such a purpose in the international literature.⁴

This technique, in our opinion, has a limitation because it can be influenced by the so-called blooming effect.

The blooming effect is well-known in the echographic field and consist of an artifact that makes it difficult to obtain reliable measurements of the examined structures, mainly if they are very small as in case of ocular and orbital structures.^{5–7} This effect is related to the signal amplification and seems to be present also in case of optical coherence tomography and CVI evaluation.

In particular, when a high signal amplification is used, the image will seem to be brighter, and the number of white pixels will be greater, while the opposite will happen using a low setting.^{8–10}

Because the CVI is obtained by converting an image from gray scale into a binary one, which has only black and white pixels, when using high settings, the image will seem to be brighter and the number of white pixels will be higher compared with the same image, using a lower amplification setting.

In this way during the binarization, the luminal area will seem to be decreased compared with the same image obtained with lower amplification, making the comparison between pictures and the results unreliable. To avoid such a problem and to make reliable the

results, a standardization of the method, so far unavailable, should be developed.

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