



Optic nerve sheath diameter, strain ratio, and shear wave elastography

ULTRA SONO GRAPHY

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LETTER

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We read with great interest the article by Razek et al. [1] concerning the optic nerve sheath diameter (ONSD), strain ratio, and shear wave elastography of the optic nerve in patients with idiopathic intracranial hypertension (IIH) and the combination of these three parameters as markers of the degree of papilledema [1]. The topic of this paper is very interesting, but in our opinion, there are some points of the study that need to be discussed. The authors stated that 34 consecutive female patients diagnosed with IIH and 16 age- and sex-matched healthy volunteers were examined. It is very easy to match the patients by sex if all participants are female. However, matching the ages of two groups composed of 34 and 16 patients each would not be a straightforward task. Since age-matching usually uses groups of the same size, it would be interesting to know how the authors matched the two groups.

Moreover, the authors, as in most published studies, utilized B-scans to measure the ONSD "between the external edges of the hyperechogenic area surrounding the optic nerve (ON)." Unfortunately, correctly measuring the optic nerve with the B-scan technique is not an easy task, because it is affected by several limitations due to the presence of artifacts [2–4]. The main problem is that the sound beam reaches the ON in a non-perpendicular way, so what is believed to be the ON with this technique is just an artifact, as described by Copetti and Cattarossi [5], who suggested using color Doppler to visualize the central retinal artery to detect the real course of the optic nerve. The authors stated that a cutoff value of 5.45 mm showed the best results. It is not clear how they reached this conclusion, because B-scans are also affected by the so-called blooming effect, which makes the measurements unreliable [6,7]. For these reasons, we suggest that future studies should use the standardized A-scan to prevent mistakes and to make reliable measurements. This technique requires some skill, but it is much more reliable, and it also makes it possible to distinguish fluid thickening, as occurs in cases of IIH, from solid thickening, as occurs in cases of neuritis or tumors [8–10].

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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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