

References

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Ultrasound and optic neuritis



Dear Editor,

We were really interested in the paper by Yee et al. concerning four patients with optic neuritis, diagnosed with ultrasound [1].

The possibility to detect optic nerve sheath diameter (ONSD) increase in case of optic neuritis or intracranial hypertension has been widely proven [2] but we would like to comment on the way the measurements have been taken in this case report.

We will avoid to comment on the use of B scan for such measurement, which is now well known to be subjective and not very reliable due to the so called blooming effect [3–7] and how better is the A scan technique for this purpose [8–13].

We would like to put our attention on the table that have been published, which proves how important is the skill and the knowledge of ocular and orbital anatomy to make safe and repeatable diagnoses [14,15].

In the introduction, the authors stated that “in order to measure the optic nerve sheath on-axis, the patients were instructed to look straight ahead and the ultrasound image view was verified to include the lens or iris; this was performed to prevent the possibility of measuring the optic nerve at an angle off midline”.

In the table shown in the paper, only in the left eye of Case #1 the lens is visible in the scan, proving, in contrast with what the authors have stated, that all the other pictures are off-axis.

Moreover, in our opinion, to include the lens in the image is correct but not sufficient, as the scanned plane should not only pass through the lens, but also through the optic nerve (ON) insertion. In this way, we are not only sure to be on axis, but we can also have reference points to measure the ONSD at the same 3 mm distance from the ON insertion.

Unfortunately, the ON insertion is only visible in the right eye of patient #3 and in the left eyes of patients #1 and #3. In patients #1 and #2, the images of the two eyes have been taken with different setting, making us wondering if the difference could have been due to the blooming effect. Furthermore, in patient #2, the distance where the measurements have been taken is not shown.

In addition, in patient #4, the distance has not been taken at the center of the optic nerve, but laterally and, as the posterior wall of the eye is concave, the distance is obviously inferior to the one that would have been measured if it was put correctly at the center of the optic nerve.

In conclusion, we would like to remark that echography could look simple but, as all the other techniques, it requires skill and knowledge of the anatomy to get trustworthy and reproducible results [16,17].

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Palmiro Cornetta, MD

Presidio Ospedaliero “Maria SS Addolorata”, ASL Salerno, Eboli, Salerno, Italy

Giuseppe Marotta, MD

Maddalena De Bernardo, MD, PhD

Livio Vitiello, MD

Nicola Rosa, MD*

Department of Medicine, Surgery and Dentistry, “Scuola Medica Salernitana”, University of Salerno, Salerno, Italy

*Corresponding author at: Department of Medicine, Surgery and Dentistry, “Scuola Medica Salernitana”, University of Salerno, Via S. Allende, 84081, Baronissi, Salerno, Italy.

E-mail address: nrosa@unisa.it.

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