

Comments on “The Value of the Optic Nerve Sheath Diameter (ONSD) in Predicting Postdural Puncture Headache (PDPH): A Prospective Observational Study”

TO THE EDITOR:

We have read with great interest the article published previously by Peng et al (1) about the use of Optic Nerve Sheath Diameter (ONSD) to predict the occurrence of postdural puncture headache (PDPH). This condition remains hard to diagnose and may be very harmful for young patients in the obstetrical context. The authors should be warmly congratulated for their follow-up of a fair number of patients, which allows the identification of risk factor of PDPH. However, we believe that their results raise questions and we would like to underline 2 points.

Firstly, the smallest values of ONSD observed by the authors at T1 and T2 are very low, with a mean value of 3.7 and 3.5 mm at T1 and T2, respectively. We believe that such low values of ONSD could be questioned because (i) the normal ONSD values assessed by computed tomography-scan 3 mm from the optic globe were: $4.94 \pm 1.51/5.17 \pm 1.34$ mm for right/left ONSD, respectively (2); (ii) and in the context of obstetrical PDPH, the cerebrospinal fluid leakage is very acute and it would be surprising that the value of the ONSD decreased to approach the size of the optic nerve itself (3). Takeuchi et al (4) did find such low values of ONSD, but in patients with spontaneous intracranial hypotension, a condition evolving over months if not years, before being diagnosed.

Secondly, we acknowledge that when we performed a similar study in 2011, we have not been able to identify criteria to predict the occurrence of PDPH, maybe because of the small size of our cohort (10 patients with PDPH) (5). But we identified a fact that may

be of interest to the authors and that they should consider adding in their next project: the assessment of the success of the treatment. Indeed, we demonstrated that in the 9 patients with a successful epidural blood patch (EBP), the ONSD remains above 5 mm even 20 hours after the procedure contrary to one patient with a failed EBP in whom the ONSD decreased below 5 mm at 20 hours. By adding this simple measurement, the day after performing the EBP, we are able to identify patients who will need additional treatment. We think that this specific evaluation could interestingly be added to a next study and in the meantime should be used to the benefits of our patients.

Frédéric Bélot-de Saint Leger, MD
Intensive care unit, Begin Military Teaching Hospital, Saint-Mandé, France

Laura Medina, MD
Intensive care unit, Begin Military Teaching Hospital, Saint-Mandé, France

Thomas Chiniard, MD
Intensive care unit, Begin Military Teaching Hospital, Saint-Mandé, France,

Clement Dubost, MD, PhD
Head of Intensive care unit, Begin Military Teaching Hospital, Saint-Mandé, France
E-mail: clement.dubost@hotmail.fr

REFERENCES

1. Peng Q, Wang J, Xia X, et al. The value of the optic nerve sheath diameter (ONSD) in predicting postdural puncture headache (PDPH): A prospective observational study. *Pain Physician* 2023; 26:45-52.
2. Vaiman M, Abuita R, Bekerman I. Optic nerve sheath diameters in healthy adults measured by computer tomography. *Int J Ophthalmol* 2015; 8:1240-1244.
3. Geeraerts T, Newcombe VF, Coles JP, et al. Use of T2-weighted magnetic resonance imaging of the optic nerve sheath to detect raised intracranial pressure. *Crit Care* 2008; 12:R114.
4. Takeuchi N, Watanabe A, Senbokuya N. Diagnostic value of the optic nerve sheath subarachnoid space in patients with intracranial hypotension syndrome. *J Neurosurg* 2012; 117:372-377.
5. Dubost C, Le Gouez A, Zetlaoui PJ, Benhamou D, Mercier FJ, Geeraerts T. Increase in optic nerve sheath diameter induced by epidural blood patch: A preliminary report. *Br J Anaesth* 2011; 107:627-630.