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LETTER TO THE EDITOR

In reference to "Downregulation of CSF-derived miRNAs miR-142-3p and miR-17-5p may be associated with post-dural puncture headache in pregnant women upon spinal anaesthesia"

Dear Editor,

We read the article by Dr. Yucel with interest and appreciated the study showing the association of downregulation of CSF-derived miRNAs with post-dural puncture headache after cesarean delivery.[1]

However, we would like to contribute to this essential issue and present our criticisms to the author's work in terms of both anesthesia and genetics literature.

The author stated that pregnant women who underwent elective cesarean section with spinal anesthesia and were classified as a physical condition I according to the American Society of Anesthesiologists (ASA) physical status were included in the study. In contrast, the author excluded from the study pregnant women classified as ASA II–IV. However, according to the ASA physical status classification system, pregnant women cannot be classified as ASA I. According to its 2020 guideline update, pregnancy is not considered a disease, but even pregnant women who do not have any systemic disease are classified as ASA II due to physiological changes during pregnancy.[2] Therefore, pregnant women who were excluded from the study because they were classified as ASA II are patients who should have been included in the study, according to the literature. Although there is a clear and strong association between ASA physical status and complications and all-cause mortality, this system was not originally designed or developed to predict perioperative risk.[3] The purpose of this classification system is to summarize, document, and compare the preoperative health status of surgical patients. In this way, the ASA physical condition classification system has become a component of clinical studies in both anesthesia and surgical departments. It enables to identify and document demographic characteristics of subjects, similarities or differences between study groups in clinical trials.[4]

On the other hand, the author used only the real-time PCR method for miRNA profile analysis in patients Cerebrospinal Fluid (CSF) samples. It is correct to choose the best reference gene among many reference genes in the literature using NormFinder. However, using just one reference gene or a short non-coding RNA element (SNORD61, SNORD68, SNORD72, SNORD95, SNORD96A, RNU6B-2) for normalization is not an appropriate approach as for miRNA profile analysis, a negative control, a positive control (or spike-in control element), and a short non-coding element should be evaluated together.

In addition, the author stated that target miRNA expression levels were investigated by the delta CT method. But, standard deviation values were not given next to the delta CT values in the results and supplementary sections. It is essential to provide these values as the author did not provide the number of repetitions (duplicate, triplicate, etc.) in each sample.[5]

Finally, the results would be more objective if the sensitivity and specificity of downregulation of miR-142-3p and miR-17-5p were investigated by ROC analysis.

In conclusion, complete and accurate ASA physical status is essential to obtain objective data in clinical studies. And target genes of miR-142-3p and miR-17-5p may be the focus of future studies on PDPH.

Conflicts of interest

The authors declare no conflicts of interest.

References

1. Yücel D. Downregulation of CSF-derived miRNAs miR-142-3p and miR-17-5p may be associated with post-dural puncture headache in pregnant women upon spinal anaesthesia. Braz J Anesthesiol. 2021. https://doi.org/10.1016/j.bjane.2021.08.016. Online ahead of print.
2. Horvath B, Kloesel B, Todd MM, et al. The evolution, current value, and future of the american society of anesthesiologists physical status classification system. Anesthesiology. 2021; 135:904—19.
3. Owens WD. American Society of Anesthesiologists Physical Status Classification System in not a risk classification system. Anesthesiology. 2001;94:378.
4. Kopp VJ. Use of the American Society of Anesthesiologists Physical Status Classification System in research. Anesth Analg. 2013;117:752.

https://doi.org/10.1016/j.bjane.2022.03.006

5. Onal M, et al. Relationship of endoplasmic reticulum stress with the etiopathogenesis of chronic tonsillitis and tonsillar hypertrophy in pediatric patients: a prospective, parallel-group study. Mol Biol Rep. 2021;48:5579—86.

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