Reviewer's report

Title: Quantitative relations between the eyeball, the optic nerve, and the optic canal important for intracranial pressure monitoring

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Reviewer: Michael Shterenshish

Reviewer's report:

While detecting changes of the intracranial pressure by means of measuring the optic nerve sheath diameter (ONSD) is widely used, this technique is very far from perfection. The authors are correct in their statement that this technique is to be improved. Actually, they suggested three improvements:

1. to measure ONSD farther from the eyeball globe to avoid influence of eyeball movements;
2. to use the optic nerve diameter/eyeball diameter index for more precise analysis of the intracranial changes; and
3. to measure the diameter of the optic canal simultaneously with the ONSD to avoid false negative results in cases when this canal is narrow.

This suggestions are supported by analysis of 400 investigated healthy adults (800 eyes, 1600 measurements). Thus, the research presents normative database for further research of pathology.

I would suggest the following revisions to improve the quality of the manuscript:

1. Please indicate more precisely how the transverse diameter of the eyeball was measured - retina to retina or sclera to sclera.
2. You did not find differences in measurements between age groups. please explain why.
3. The CT scans were used in the research. Please explain how these measurements can be obtained by MRI or ultrasound that also are used for intracranial pressure detection via ONSD.
4. The title of the article is somewhat long. I do not insist, but perhaps you can rephrase it.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests