optic nerve. However, at least in NTG[3] CSF does not communicate freely between the intracranial subarachnoid space and that of the optic nerve. The optic canal is extremely narrow and due to the mechanosensitivity of meningothelial cells[4] that line the canal, the anatomy of the canal can change the anatomical pathway for CSF.

Third, as pressure is defined as force over area, the area involved in TLP needs to be known. The area in question is a complex and irregular arrangement of ovaloid circles that are arranged within an annulus[5] and is not known in any of the patients presented. Thus, the forces in the equation for TLPD cannot be calculated.

Given these missing information and uncertainties, the concept of TLP seems still premature.

Conflict of interest

The authors declare no conflict of interest.

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A Pircher and HE Killer

Department of Ophthalmology, Cantonal Hospital Aarau, Aarau, Switzerland
E-mail: killer@ksa.ch

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Sir,
Reply to: 'TLP: a premature concept'

We would like to thank authors Killer and Pircher[1] for their thoughtful comments. Foremost we agree that although the importance of translaminar pressure (TLP) in glaucomatous pathophysiology is beginning to emerge, there are many unanswered questions. Therefore, our article was created to investigate the current state of knowledge of translaminar pressure difference (TLPD) in open-angle glaucoma, provide the first comprehensive meta-analysis on available data, and to identify gaps in knowledge that should be addressed.

The idea of simultaneous measurement of both intraocular pressure (IOP) and cerebrospinal fluid pressure (CSF-p) provided by Killer HE and Pircher A technically leads to the idea of monitoring. Several reports have demonstrated a good safety and tolerability of the contact lens sensor (CLS) for 24-h use[2,3] as well as good reproducibility of measurements.[4] However, in clinical practice the use of CLS is still under investigation as variations in IOP lead to changes in ocular volume and dimensions, measurements are provided in relative units and direct comparisons between routine tonometry measurements in mmHg cannot be performed.

Continuous monitoring of intracranial pressure (ICP) using currently available invasive techniques is not preferable in routine glaucoma practice. Besides, to date no studies have conclusively been able to demonstrate whether bilateral ICP monitoring should be undertaken routinely.[5]

We agree that TLPD is a relatively simplistic term. Still optic nerve subarachnoid space and cerebrospinal fluid lie within 1 mm of the optic disc surface and CSF-p has significant impact on axonal transport across the optic disc. Compression and displacement of the lamina cribrosa leads to blockade of axoplasmic flow.[6] Authors note that the area involved in TLP needs to be known. At this point we need to separate two definitions—TLP gradient depending on the pressure difference and the distance between the intraocular compartment and the retrobulbar fluid filled compartment. Although the TLPD depends on the IOP and retrobulbar CSF-p, leaving the area aside the definition.

In summary, only with advancement in non-invasive methodologies will the breadth of data be available to provide new evidence on importance of TLPD in glaucoma.

Conflict of interest

The authors declare no conflict of interest.

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I Januleviciene[1], L Siaudvytyte[1], A Daveckaite[1], A Ragauskas[2], B Siesky[3] and A Harris[3]

[1]Eye Clinic, Lithuanian University of Health Sciences, Kaunas, Lithuania
[2]Health Telematics Science Centre of Kaunas University of Technology, Kaunas, Lithuania
[3]Glaucoma Research and Diagnostic Center, Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine, Indianapolis, IN, USA
E-mail: ingrida.januleviciene@kaunoklinikos.lt

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