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RESPONSE TO LETTER

Are Generalized Reduced Cerebrospinal Fluid Dynamics and Optic Nerve Sheath Compartmentation Sequential Steps in the Pathogenesis of Normal-Tension Glaucoma? [Response to Letter]

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Dear editor

We appreciate the thoughtful considerations of Peter Wostyn concerning our paper Lipocalin-type prostaglandin D synthase concentration gradients in the cerebrospinal fluid in normal-tension glaucoma patients with optic nerve sheath compartmentation.[1] We are aware of his many creative contributions to the field of glaucoma and neurodegeneration.

We fully agree that impaired cerebrospinal fluid (CSF) dynamics may play a crucial role in normal-tension glaucoma[2] as well as in the pathophysiology of other neurodegenerative diseases, such as Alzheimer´s[3] and Parkinson´s disease.[4] Elevated Lipocalin-type prostaglandin D-synthase (L-PGDS) levels in the lumbar CSF in our cohort of normal-tension glaucoma patients compared to the concentration measured in healthy controls in other studies might indeed indicate generalized dysfunctional CSF dynamics in patients with normal-tension glaucoma.

CSF and its content are distributed between the extracranial and the intercranial CSF spaces, eg, subarachnoid spaces, cisterns and ventricles. In order for CSF to perform its multiple functions, it also needs to be distributed within the parenchyma of the brain and the optic nerve itself. It therefore would be of great interest to know more about the concentration of proteins, such as L-PGDS, alpha synuclein and abetalipoprotein not only in the CSF surrounding the brain, but in the brain parenchyma (interstitial fluid) as well. The mechanism by which it is transported within parenchyma is still shrouded in mystery[5] and should be subject of future studies.

Disclosure

The authors report no conflicts of interest in this communication.

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