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Letters

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Control issues

We recently reviewed the article by Killer *et al*, titled ‘Cerebrospinal fluid exchange in the optic nerve in normal-tension glaucoma’¹ in our weekly Glaucoma Journal Club at the Bascom Palmer Eye Institute. The article raises the interesting concept that a difference in cerebrospinal fluid (CSF) exchange between the subarachnoid space of the optic nerves and the basal cistern, measured using contrast-enhanced computed cisternography as a marker of ventricular CSF flow, may exist as a contributing factor in the development of normal-tension glaucoma.

The authors state, ‘All patients were subjects in another clinical study (Normal Tension and Chronic Open Angle Glaucoma and Cerebrospinal Fluid Composition).’ This is an NIH-sponsored study evaluating differences in CSF composition around the optic nerves taken from normal-tension glaucoma patients undergoing optic nerve sheath fenestration with specimens from the same patients undergoing lumbar puncture. The authors recruited 18 subjects and four controls. However, in the description of the methods, they report that the four control subjects were ‘without known intracranial disease or any form of glaucoma ... who also underwent CT cisternography as part of another study.’ The authors do not specify which other study; whether these people were controls or subjects of intervention in the other study; or why these patients were selected to have cisternography, which includes a lumbar puncture with injection of intrathecal contrast. The control group in any study provides a frame of reference from which certain observations can be deemed significant, and the authors in this study address the obvious limitations of their control group, including the small size of the control group and the gender (all female). However, because the control group is small, and because of the invasive nature of the study, any potential confounding factor, such as the underlying reason for inclusion in another study, may be significant to the interpretation of the results. A more complete discussion of patient and control selection may be warranted.

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Contributors All the authors listed contributed the key points mentioned in the letter as a result of a round-table discussion during the weekly glaucoma journal club meeting at Bascom Palmer Eye Institute. LSB compiled these points and wrote the letter which was reviewed, edited and approved by the other listed authors.

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1. Killer HE, Miller NR, Flammer J, et al. Cerebrospinal fluid exchange in the optic nerve in normal-tension glaucoma. *Br J Ophthalmol.* 2012; 96:544–8. [PubMed: 22116958]