the study to detect a difference between treatment groups would not be appropriate.

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References


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Linear Relation between Structure and Function

The main limitation of the study by Danesh-Meyer et al. 1 was neither discussed nor mentioned. The time axis was not taken into account. The functional change after an acute event such as anterior ischemic optic neuropathy (AION) is immediate, but there is a delay before the anatomic changes take place. In this study, most of the patients with nonarteritic anterior ischemic optic neuropathy (NAION) or arteritic anterior ischemic optic neuropathy (AAION) were tested a short period after the acute event, as described by the authors.

In a similar study by Hood et al., 2 the patients were tested at least 5 months after the AION event, with a median of 2.95 years. The reason was to allow sufficient time to minimize the effects of optic disc swelling and to allow the retinal ganglion cell (RGC) axons to degenerate. The results of the study in Hood et al. are obviously contrary to those presented by Danesh-Meyer et al. The relationship between a structure (optical coherence tomography [OCT]–determined retinal nerve fiber layer thickness) and function (standard automated perimetry [SAP]–determined sensitivity loss) is the same in patients with AION as in those with open angle glaucoma (OAG).

It is not adequate to use visual field perimetry results as a criterion for comparison in the population examined by Danish Meyer et al., 1 as visual acuity and visual fields improve up to ~6 months from the onset of NAION. 5

The only conclusion that can be made from the results of Danish-Meyer et al. 1 is that a few months after the acute event of NAION/AAION the optic disc and RNFL look different than they do in OAG.

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Author Response: Linear Relation between Structure and Function

We thank Wegner and Erben for their comments and draw their attention to the Discussion in our article. 1 In that section, we addressed their concern by stating that “most of our imaging studies were performed longer than 6 weeks after presentation, with 52 (91%) of 57 NAION and 16 (80%) of 20 AAION eyes imaged with HRT and/or OCT 3 months or more after the event.” We further discussed that there may have been some additional thinning of the RNFL, which continues subsequent to this time point. However, when we limited the patients included to those with data recorded greater than 3 months after the acute AION event, there were no significant changes in the results.

We also disagree that the data of Hood et al. 2 are similar to ours. They did not evaluate optic disc topography, but rather modeled the relationship of peripapillary retinal nerve fiber layer thickness to visual field mean deviation. The conclusion we drew from our work was that there was a difference in the topography of the optic disc between open angle glaucoma and the anterior ischemic optic neuropathies, not that there were differences in nerve fiber layer thickness. We believe our conclusion about differences in disc topography is strengthened by the fact that we explicitly controlled for the total amount of damage in each condition, using either visual field mean defect or average nerve fiber layer thickness. Furthermore, Hood et al. did not differentiate between AAION and NAION in their study.

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