Letters

Author Response: Comments on Evaluation of Central and Peripheral Visual Field Concordance in Glaucoma

We thank Jiang and colleagues\textsuperscript{1} for their comments on our recent article\textsuperscript{2} comparing central and peripheral visual field (VF) loss in glaucoma. Their comments raise an excellent point—that sensitivity at greater levels of eccentricity to fixation are more variable both within and across individuals—a point also made in our original discussion.

If we wanted to compare the percentage of test locations within the central and peripheral VF that were abnormal at a statistically significant level, then a different approach focused on detecting abnormalities based on the eccentricity-adjusted probability of abnormality in normal eyes would have been warranted. Instead, we chose to examine the number of points that were actually abnormal by a specific decibel value. It is true that this approach was partially necessitated by the suprathreshold test we chose when evaluating the peripheral VF (see Methods section of our original article). However, this approach has scientific meaning in that it compares the percentage of central and peripheral points that are depressed by a specific amount.

A limitation of this approach is that our findings may partially result from true differences in the extent to which glaucoma affects the central and peripheral VFs, and partially from differences in the degree of variability observed in central and peripheral test locations. The peripheral 60 screening test used in our study attempts to minimize interindividual peripheral variability by tailoring testing to each individual's expected hill of vision, though the extent to which it is successful is unknown. Also, the specific VFs presented in Figures 3 and 4, which demonstrate clustered temporal sparing in an eye with advanced central VF loss, and a large cluster of abnormal nasal points in an eye with a normal central VF suggest that our findings are unlikely to simply reflect variability-induced noise.

Finally, we feel that the primary conclusions stated in our article remain unchanged. We maintain that central 24-2 testing generally reflects the extent of damage in the peripheral VF in fact, had we taken the approach suggested by Jiang and colleagues,\textsuperscript{1} and if our results stem from greater variability in more peripheral test locations, the association between central and peripheral loss would likely have been even stronger. We also maintain that significant differences in the central and peripheral VFs are observed for some individual eyes. It is possible that some of these differences could be due to the variability in eccentricity mentioned by Jiang et al.,\textsuperscript{1} although this is unlikely to account for the full extent of the observed differences given the findings presented within individual VFs (Figs. 3, 4 in original article).

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References


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