Assessing the influence of stimulus size on defect detectability in the central visual field

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PURPOSE

It has been previously demonstrated that a Goldmann size V visual field stimulus (1.72° diameter) was comparable to size III (0.43° diameter) when flagging 5% limit defects with the 24-2 test pattern in early glaucoma, whilst increasing the clinically-useful dynamic range and improving repeatability [1].

This ongoing, prospective clinical study aims to build upon this previous work by comparing the diagnostic utility between size III and V stimuli with the 10-2 test pattern on a sample of participants with glaucoma.

RESULTS

• Bland-Altman analyses revealed that there was good agreement between size III and V Full Threshold 10-2 test strategies with respect to the total number of flagged points at the P<5% level at each location for both TD (mean difference = -0.09, SD = 2.06) and PD (mean difference = 0.29, SD = 2.31).
• There was a strong correlation observed between III and V for both TD (r2 = 0.85) and PD (r2 = 0.85).
• There was no significant difference between size III and V for total number of flagged locations at the P<5% level for both TD (p = 0.72, paired t-test) and PD (p = 0.13, paired t-test).

CONCLUSIONS

Results from this preliminary study suggest that the diagnostic utility of size V is comparable to that of size III when detecting glaucomatous VF defects within the central 10 degrees of the VF.

REFERENCES

[1] Flanagan et al. IOVS 2016; 57(12)