Evaluation of reading speed ability in glaucoma patients with central visual field defects
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Purpose: The purpose of this study was to evaluate the relationship between the reading speed ability of glaucoma patients with central visual field defects, and the possibility of that speed improving after patient cognizance of their visual field defects.

Methods: This study involved 67 glaucoma patients (36 males and 31 females, mean age: 62.1 ± 18.6 years) who were followed up at Kyoto Prefectural University of Medicine, Kyoto, Japan who had a corrected visual acuity over 3/10 and who had absolute scotoma with a probability symbol p < 0.5% less than 1 point or more presenting in at least 1 eye within 5 degrees in the center of the pattern deviation in Humphrey perimeter SITA standard 30-2 program or having absolute scotoma within 5 degrees in the center in Goldmann perimetry in at least 1 eye. For all subjects, a sample text was used to judge and evaluate their oral reading speed (characters per minute) of vertical and horizontal text. The association of the following factors was then analyzed: subject age, location of visual field defects, and glaucoma disease duration. For statistical analysis, the Spearman correlation test and the paired t test were used. Next, visual field defect severity in each patient was evaluated with a near vision chart in order to make the patient cognizant of his/her visual field defects. The patients’ reading speed was then compared between before and after them being aware of their visual field defects.

Results: The mean vertical and horizontal reading speed was 272.8 ± 101.6 (characters per minute) and 291.8 ± 94.4 (characters per minute), respectively. Significant association was found between reading speed and patient age and mean deviation, both in vertical and horizontal reading. After being aware of their near-visual field defects, only each patients’ vertical reading speed significantly improved (Wilcoxon signed-rank test, p = 0.03).

Conclusions: The reading speed ability of glaucoma patients having central visual field defects was affected by patient age and mean deviation, and improved after the patient’s cognizance of their visual field defects.

This study was also submitted in 2014 ARVO meeting.