Visual impairment and vision-related quality of life in the Early Manifest Glaucoma Trial after 20 years of follow-up

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PURPOSE: To determine the association between vision-related quality of life (VRQOL) and levels of visual function loss in the Early Manifest Glaucoma Trial (EMGT).

METHODS: Two hundred and fifty-five patients were included in the EMGT between 1993 and 1997 and followed regularly by ophthalmic examinations. A Swedish translation of the National Eye Institute Visual Function Questionnaire 25 (NEI VFQ-25) was self-administered at several follow-up visits until 2014. We analysed the association between Rasch-calibrated NEI VFQ-25 scores and visual function in the best eye at the final follow-up visit.

RESULTS: Ninety-one per cent (233/255) of all participants completed the NEI VFQ-25 at least once. In univariate logistic regression analysis, NEI VFQ-25 scores were modestly associated with visual acuity (VA) ($r^2 = 0.330$, $p < 0.001$), visual field index (VFI) ($r^2 = 0.200$, $p < 0.001$) and perimetric mean deviation (MD) ($r^2 = 0.193$, $p < 0.001$). In multivariate analysis, VA and VFI together accounted for approximately 40% ($r^2 = 0.380$) of the NEI VFQ-25 scores. NEI VFQ-25 scores were significantly higher for patients with no visual impairment (mean 73 ± 22) than for visually impaired patients (mean 31 ± 15, $p < 0.001$). VFI worse than 50% or MD worse than -18 dB was significantly associated with low VRQOL scores ($p < 0.001$).

CONCLUSIONS: Our results support the widespread, albeit arbitrary, use of a better-eye visual field of <50% as an important threshold for a significant reduction in VRQOL.


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