

Title of abstract

Diabetic retinopathy and quality of life: insights from the LENS trial

Introduction

Previous research shows that quality of life (QoL) is reduced in people with non-proliferative diabetic retinopathy (NPDR) compared to those with no DR. However, there is limited information available about how visual acuity (VA) and other variables affect quality of life (QoL) in DR. This was investigated in a trial population with NPDR.

Methods

Lowering Events in Non-proliferative retinopathy in Scotland (LENS) is a randomised double-blind placebo-controlled trial investigating the effect of fenofibrate on the progression of DR in participants with mild to moderate NPDR (defined as bilateral ETDRS 20-35; or unilateral/bilateral ETDRS 43; or unilateral/bilateral hard exudates within 1-2 disc diameters of the fovea centre) (NCT03439345, ISRCTN15073006). The trial is embedded within Scotland's diabetic eye screening program. At the LENS screening visit, vision-related QoL (using the VFQ-25 questionnaire) and health-related QoL (using the EQ-5D instrument) were recorded. Eligible participants with NPDR then entered a 2-month active run-in period (receiving fenofibrate) prior to randomisation.

Cross-sectional analyses using multivariate regression model was conducted to explore the relationships between QoL and key variables including age, sex, duration of diabetes, type of diabetes, VA, and HbA1c.

Results

1633 participants were screened for LENS, of whom 1484 entered the run-in period and 1151 were randomised. VFQ-25 and EQ-5D forms are available for participants who consented to participate in LENS. Of these people, about 30% had type 1 diabetes, 70% were men, mean duration of known diabetes was 18 (SD 10) years, mean age was 60 (SD 13) years and mean HbA1c was 67 (SD 16) mmol/mol. The mean best corrected VA in the better eye was 0.04 (SD 0.14) LogMAR and 15% had subnormal vision (defined as best corrected VA ≥ 0.3 on LogMAR scale) in at least one eye.

A higher VFQ-25 score was associated with higher EQ-5D index score (coefficient 25.3 [95% CI 23.0, 27.5]) and better VA (coefficient -19.1 [-22.5, -15.7]). A worse score was associated with T2DM, history of retinal laser treatment and vitrectomy. EQ-5D and VA explained 33% of the variation in VFQ-25.

Conclusions

QoL in LENS participants was lower age matched general population in England. Better VA and general health state were associated with better QoL, while T2DM and history of previous retinal laser or vitrectomy were associated with lower QoL.