Visual Field Outcomes from LiGHT: Laser in Glaucoma and Ocular Hypertension, a multicentre, randomised controlled trial. | IOVS

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Abstract

Purpose : A recent report from the Laser in Glaucoma and Ocular Hypertension (LiGHT) trial showed that selective laser trabeculoplasty (SLT) provides better clinical effectiveness and lower treatment intensity among newly diagnosed glaucoma and ocular hypertension (OHT) patients compared to intra-ocular pressure lowering eye drops. The purpose of this secondary analysis of LiGHT data was to compare visual field outcomes of OHT and glaucoma patients treated with Medicine-1st against those treated with SLT (Laser-1st).

Methods : Visual fields (VFs) for 344 patients (588 eyes) treated with Medicine-1st and 344 patients (590 eyes) treated with Laser-1st were measured using standard automated perimetry and arranged in series (median length and duration: 9 VFs over 48 months). Hierarchical linear models were used to estimate pointwise VF progression rates, which were then averaged to produce a global progression estimate for each eye. Outcome measures were pointwise and global progression rates of total deviation (TD) and pattern deviation (PD). Proportions of points and patients in each treatment group with fast (< -1 dB/y) or moderate (< -0.5 dB/y) progression were compared using log-binomial regression.

Results : A greater proportion of eyes underwent moderate or fast TD progression in the Medicine-1st group compared with the Laser-1st group (26.2% vs. 16.9%; Risk Ratio, RR = 1.55 [1.23, 1.93], $P < 0.001$). A similar pattern was observed for pointwise rates (Medicine-1st 26.1% vs. Laser-1st 19.0%, RR = 1.37 [1.33, 1.42], $P < 0.001$). A greater proportion of pointwise PD rates were categorised as moderate or fast in the Medicine-1st group (Medicine-1st 11.5% vs. Laser-1st 8.3%, RR = 1.39 [1.32, 1.46], $P < 0.001$). Evidence for a difference in the proportion of eyes that underwent moderate or fast PD progression was weaker (Medicine-1st 9.9% vs. Laser-1st 7.1%, RR = 1.39 [0.95, 2.03], $P = 0.0928$).

Conclusions : Ocular hypertensive and glaucoma patients treated with Medicine-1st were more likely to undergo rapid VF progression than those treated with Laser-1st.

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