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Visual Field Outcomes from the Multicenter, Randomized Controlled Laser in Glaucoma and Ocular Hypertension Trial

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Purpose: To compare visual field outcomes of ocular hypertensive and glaucoma patients treated first with medical therapy with those treated first with selective laser trabeculoplasty (SLT).

Design: Secondary analysis of patients from the Laser in Glaucoma and Ocular Hypertension study, a multicenter randomized controlled trial.

Participants: Three hundred forty-four patients (588 eyes) treated first with medical therapy and 344 patients (590 eyes) treated first with SLT.

Methods: Visual fields (VFs) 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. Proportions of points and patients in each treatment group with fast (<-1 dB/year) or moderate (<-0.5 dB/year) progression were compared using log-binomial regression.

Main Outcome Measures: Pointwise and global progression rates of total deviation (TD) and pattern deviation (PD).

Results: A greater proportion of eyes underwent moderate or fast TD progression in the medical therapy group compared with the SLT group (26.2% vs. 16.9%; risk ratio [RR], 1.55; 95% confidence interval [CI], 1.23−1.93; $P < 0.001$). A similar pattern was observed for pointwise rates (medical therapy, 26.1% vs. SLT, 19.0%; RR, 1.37; 95% CI, 1.33−1.42; $P < 0.001$). A greater proportion of pointwise PD rates were categorized as moderate or fast in the medical therapy group (medical therapy, 11.5% vs. SLT, 8.3%; RR, 1.39; 95% CI, 1.32−1.46; $P < 0.001$). No statistical difference was found in the proportion of eyes that underwent moderate or fast PD progression (medical therapy, 9.9% vs. SLT, 7.1%; RR, 1.39; 95% CI, 0.95, 2.03; $P = 0.0928$).

Conclusions: A slightly larger proportion of ocular hypertensive and glaucoma patients treated first with medical therapy underwent rapid VF progression compared with those treated first with SLT. *Ophthalmology 2020;■:1−9 © 2020 by the American Academy of Ophthalmology*

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Glaucoma is a progressive optic neuropathy that, left untreated, can lead to loss of vision. Glaucoma can have significant implications for patients and is associated with worse vision-related quality of life.[1−4] Assessing visual function, typically by visual field (VF) examination, is vital for clinical management, especially for assessing the effectiveness of treatment in controlling the disease. Visual field progression will usually drive treatment intensity, because lowering intraocular pressure (IOP) is currently the only available treatment to slow the progression of glaucoma.[5]

Thus far, IOP-lowering eye drops have been used as a first-line treatment for glaucoma and ocular hypertension (OHT), but a recent report from the Laser in Glaucoma and Ocular Hypertension (LiGHT) trial showed that selective laser trabeculoplasty (SLT), an outpatient laser procedure for the reduction of IOP, provides better clinical effectiveness and lower treatment intensity among newly diagnosed glaucoma and OHT patients compared with IOP-lowering eye drops, and comparable health-related quality of life, while also being cost-effective.[6]

Although the IOP-lowering efficacy of SLT has been compared extensively with that of eye drops,[7−11] and despite a substantial body of research into VF progression in glaucomatous patients, little evidence exists comparing SLT and IOP-lowering eye drops in terms of VF outcomes. This study aimed to compare VF progression between patients who underwent SLT with those who received IOP-lowering

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eye drops as a first-line treatment for glaucoma and OHT in the LiGHT trial.

Methods

Analysis Cohort

Details of the LiGHT trial design and baseline characteristics are described elsewhere.[12,13] Briefly, the LiGHT trial was a multicenter, randomized controlled trial comparing IOP-lowering eye drops with SLT. A total of 718 newly diagnosed, previously untreated OHT or open-angle glaucoma patients were randomized to 1 of 2 treatment pathways. Patients in the medical therapy-first group received topical IOP-lowering eye drops to reduce IOP, whereas patients in the SLT group underwent SLT (followed by medication if required as the trial progressed). Subsequent treatment decisions surrounding treatment escalations, repeated SLT, or trabeculectomy were conducted according to the study protocol with the aid of a computerized decision algorithm to avoid bias in clinical decision making. The decision support algorithm used in the LiGHT trial has been described in detail previously.[12,14] Patients were treated to eye-specific IOP targets that were determined according to the computer algorithm. Recruitment lasted 2 years and ended in October 2014. Primary outcomes were reported at 3 years, and additional funding allowed the trial to extend for a further 3 years.

At each study visit, VFs were measured using the Humphrey Field Analyzer with the Swedish interactive threshold algorithm standard 24-2 program (Carl Zeiss Meditec, Dublin, CA). Visual field measurements were used primarily as an input (along with IOP and optic disc imaging measurements) into decision support software, which generated eye-specific treatment recommendations at each study visit. The secondary analysis reported here used VFs extracted from the decision support software database on December 13, 2018, as the trial approached the 6-year mark. We constructed a longitudinal series of VFs for each study eye, and these formed the basis for all analyses. A total of 11 823 VFs were extracted from the database. Of these, we excluded 86 VFs with false-positive rates of more than 14% as potentially unreliable and 56 eyes with very short series (<5 VFs) because these contained little information from which to estimate progression. After these exclusions, 11 563 VFs remained, approximately equally distributed between treatment groups. A total of 1178 eyes from 688 patients (95.8% of those randomized) were included in this analysis; treatment groups had similar patient baseline characteristics both to each other and to previously reported analyses[6,13] (Table 1). Median follow-up time (medical therapy group, 47 months; SLT group, 49 months) and VF series length (medical therapy group, 5630 VFs [9 VFs per eye]; SLT group, 5933 VFs [10 VFs per eye]) were similar across treatment groups.

Statistical Analysis

We compared VF outcomes between groups by constructing hierarchical linear models describing change in VF measures over time using the VF data described previously. A trend-based method of comparison was chosen because it is potentially more sensitive than event-based methods such as guided progression analysis for detecting progression,[15,16] especially where the number of events is expected to be small, as in these early cases. We examined change at each of the 52 measured locations (excluding the blind spot) in each VF series, specifying a random effects structure nesting locations within eyes, within individuals.[17] This accounted for variation in response among locations because of eye-level variation and correlation between eyes within individuals, respectively, while pooling information across the entire cohort to produce the most accurate estimates. Fixed-effects terms represented baseline values (equivalent to y-axis intercept [decibels]) and rate of change per year (slope [decibels per year]) in each treatment group, enabling us simultaneously to evaluate (using the slope-by-group interaction term) the statistical evidence for a difference in progression rates between groups and to estimate effect size (i.e., difference in slopes).[16,18]

Two outcome variables were modeled. Total deviation (TD) is the difference of the measured sensitivity at each location from that expected for a patient of that age with no pathologic features. Pattern deviation (PD) is the TD value at each location adjusted for generalized depression of sensitivity across the VF.[19] Both PD and TD values were extracted from the Humphrey Field Analyzer. Generalized depression and changes in TD may be caused by several nonglaucomatous conditions, including cataract, whereas PD is designed to highlight the more localized VF changes found in glaucoma. However, glaucoma almost always has a diffuse component that is ignored by PD, so it is a less sensitive measure than TD and is more prone to underestimation of glaucomatous damage than TD.[20] Models were fitted in R software version 3.5 (R Development Core Team, R Foundation for Statistical Computing, Vienna, Austria).

Alongside pointwise estimates, global estimates of TD and PD progression for each study eye were extracted from the models. For each eye, the estimated rate at each location was extracted; the mean of these pointwise rates was calculated to give the global estimate for that eye. Pointwise estimates enable better detection of spatially localized changes, whereas global estimates are useful for describing diffuse changes in sensitivity.

To assess the clinical importance of differences between treatment groups, we categorized estimated progression rates of each location and eye into 1 of 6 categories (fast progression, $-1 >$ slope [decibels per year]; moderate progression, $-1 \leq$ slope < -0.5 dB/year; slow progression, $-0.5 \leq$ slope < 0 dB/year; slow improvement, $0 \leq$ slope < 0.5 dB/year; moderate improvement, $0.5 \leq$ slope < 1 dB/year; and fast improvement, slope ≥ 1 dB/year). Category boundaries in the progression end (i.e., slope < 0) of the rate distribution were based on those previously reported in studies of glaucoma progression in clinical populations.[21,22] A symmetrical set of boundaries was applied to the improvement end of the distribution as a measure of variability. A tendency toward faster progression and also faster improvement in 1 treatment group (i.e., a fatter tailed distribution) would indicate greater variability in rates, rather than a shift toward faster progression. We used log-binomial (relative risk) regression to compare the proportion of locations and eyes in each group undergoing fast or moderate progression, representing patients at the greatest risk of vision loss. These models were nonhierarchical, with treatment group as the predictor and the outcome being a binary variable indicating whether the estimated rates (from the hierarchical model) were more or less than -0.5 dB/year. At the other end of the rate distribution, the proportions of locations and eyes undergoing fast or moderate improvement were compared in a similar manner.

We conducted a sensitivity analysis to further investigate the influence of cataract, refitting our models to exclude eyes that underwent cataract removal. Similarly, eyes that underwent trabeculectomy may have experienced a step increase in sensitivity after surgery. We censored VF series for these eyes at time of surgery and refitted the models.

The study adhered to the tenets of the Declaration of Helsinki. Ethical approval was obtained from the City Road and Hampstead

Table 1. Distribution of Cohort Characteristics by Treatment Group

Characteristic	Medical Therapy	SLT
No. of patients	344	344
Gender, no. (%)		
Male	180 (52.3)	193 (56.1)
Female	164 (47.7)	151 (43.9)
Age (yrs), mean (SD)	62.9 (11.6)	63.4 (12.0)
OAG, no. (%)	271 (78.8)	266 (77.3)
OHT, no. (%)	73 (21.2%)	78 (22.7)
No. of eyes	588	590
Bilateral cases, no. (%)	245 (71.2)	249 (72.4)
Follow-up duration (mos), median (IQR)	47 (39–54)	49 (42–56)
No. of visual fields	5630	5933
Visual fields per eye, median (IQR)	9 (8–11)	10 (8–12)
Interval between fields (days), median (IQR)	135 (83–189)	140 (94–189)
Visual field mean deviation at baseline (dB), median (IQR)	−2.0 (−4.5 to −0.5)	−2.2 (−4.4 to −0.6)
IOP target at baseline (mmHg), median (IQR)	18 (16–21)	18 (16–21)
No. of cataract removals performed	64	42

Values given are frequencies unless otherwise indicated.
IOP = intraocular pressure; IQR = interquartile range; OAG = open-angle glaucoma; OHT = ocular hypertension; SLT = selective laser trabeculoplasty.

Research and Ethics Committee. All patients provided written informed consent before participation. The study is registered at controlled-trials.com (identifier, ISRCTN32038223), and the protocol is available online.[12]

Results

Total Deviation

Estimated mean pointwise TD decreased in both the medical therapy and SLT groups over time: medical therapy, −0.25 dB/year (95% confidence interval [CI], −0.31 to −0.19); SLT, −0.19 dB/year (95% CI, −0.25 to −0.13). Little evidence was found for a difference in mean rates of progression between groups (slope by group interaction term, $t = 1.41$, $P = 0.157$), but the distribution of estimated progression rates did vary by group. Distributions of both pointwise and global estimates were left-skewed more strongly in the medical therapy group than in the SLT group (Fig 1, global estimates), indicating that greater proportions of locations and eyes in the medical therapy group showed evidence of more rapid progression (Table 2).

One in 4 eyes underwent moderate or fast progression in the medical therapy group compared with approximately 1 in 6 eyes in the SLT group (risk ratio [RR], 1.55 [95% CI, 1.23–1.93]; $P < 0.001$). Similarly, a greater proportion of locations was categorized as having moderate or fast progression in the medical therapy group (RR, 1.37 [95% CI, 1.33–1.42]; $P < 0.001$). No evidence was found for a difference between treatment groups in the proportion of eyes that underwent moderate or fast improvement (RR, 1.29 [95% CI, 0.83–2.04]; $P = 0.266$). A greater proportion of locations was categorized as showed moderate or fast improvement in the medical therapy group (RR, 1.31 [95% CI, 1.24–1.39]; $P < 0.001$).

After exclusion of eyes that underwent cataract removal, the differences between treatment groups were attenuated: eyes that underwent moderate or fast progression (RR, 1.43 [95% CI, 1.11–1.83]; $P = 0.005$) and locations (RR, 1.25 [95% CI, 1.21–1.29]; $P < 0.001$). Censoring VF series at trabeculectomy had almost no influence on estimated differences between treatment groups (RRs not shown).

Pattern Deviation

The distribution of progression estimates was similar for PD, but estimated rates were lower and differences between treatment groups were less pronounced than for TD. Estimated mean pointwise PD decreased in both the medical therapy and SLT groups over time: medical therapy, −0.12 dB/year (95% CI, −0.16 to −0.09); SLT, −0.09 dB/year (95% CI, −0.13 to −0.06). No evidence was found for a difference in mean rates of progression between groups ($t = 1.19$; $P = 0.236$), but both pointwise and global estimates were left-skewed more strongly in the medical therapy group than in the SLT group (Fig 2).

No evidence was found for a statistical difference between treatment groups in the proportion of eyes that underwent moderate or fast progression (Table 3; RR, 1.39 [95% CI, 0.95–2.03]; P= 0.0928). A greater proportion of locations was categorized as having moderate or fast progression in the medical therapy group (Table 3; RR, 1.39 [95% CI, 1.32–1.46]; $P < 0.001$). No evidence was found for a difference between treatment groups in the proportion of eyes that achieved moderate or fast improvement (RR, 1.86 [95% CI, 0.75–4.64]; $P = 0.181$). A greater proportion of locations was categorized as having moderate or fast improvement in the medical therapy group (RR, 1.37 [95% CI, 1.24–1.51]; $P < 0.001$).

After exclusion of eyes that underwent cataract removal, the differences between treatment groups were attenuated: eyes that underwent moderate or fast progression (RR, 1.18 [95% CI, 0.78–1.77]; $P = 0.436$) and locations (RR, 1.29 [95% CI, 1.22–1.35]; $P < 0.001$). Censoring VF series at trabeculectomy had almost no influence on estimated differences between treatment groups (RRs not shown).

Baseline Sensitivity, Intraocular Pressure, and Progression Rates

Eyes that underwent fast progression or improvement showed lower average sensitivity at baseline than those with intermediate progression or improvement rates (Fig 3). Similarly, eyes that underwent fast progression or improvement showed slightly lower IOP targets set at baseline than those with intermediate rates (Fig 4). No evidence was found that the distributions of

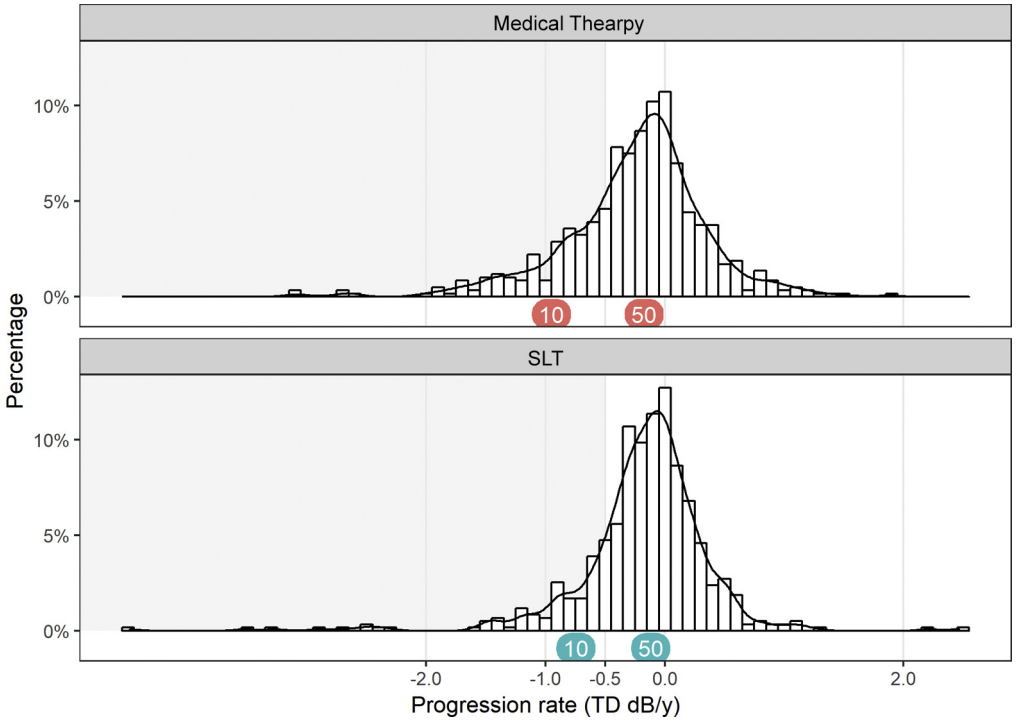

Figure 1. Graph showing the distribution of estimated global total deviation (TD) progression rates by treatment group. The median and tenth percentiles are indicated. The curved line represents a smoothed density estimate to the histogram.

baseline sensitivity or IOP targets differed between treatment groups (Table 1).

Discussion

This study examined the VF progression differences between glaucoma and OHT patients treated first with medical therapy and patients treated first with SLT in the LiGHT study. Using TD values, we estimated that 1 in 4 eyes showed moderate or fast VF progression in the medical therapy group, whereas in the SLT group, this value was approximately 1 in 6. The difference between groups was less pronounced, with no statistical evidence for a difference, when using PD values. The proportion of pointwise rates that were moderate or fast was slightly greater in the medical therapy group using both PD and TD. These differences were not reflected at the upper ends of the rate distributions for either eyes or locations, indicating that our findings were not the result of greater variability in one or the other treatment group.

The results of this study suggest that treating patients first with SLT may delay VF progression in comparison with initial medical therapy. Intraocular pressure control with eye drops may rely on patient concordance with treatment; indeed, IOP-lowering drops have been available to patients reportedly only 69% of the time, whereas concordance may range between 76% and 86%, with even lower figures reported for more complex instillation regimes.[23–25] Although self-reported concordance in the LiGHT study has been high,[14] the possibility of poor concordance having a significant adverse effect on disease control cannot be ruled out because actual dose monitoring was not carried out. However, patients in clinical trials are reported to

Table 2. Distribution of Estimated Total Deviation Progression Rates by Treatment Group

Progression Rate	Locations		Eyes	
	Medical Therapy	*SLT*	*Medical Therapy*	*SLT*
Fast (−1 > slope [dB/yr])	10.2 (3115)	6.0 (1848)	9.5 (56)	5.4 (32)
Moderate (−1 ≤ slope < −0.5 dB/yr)	15.9 (4864)	13.0 (3980)	16.7 (98)	11.5 (68)
Slow (−0.5 ≤ slope < 0 dB/yr)	40.3 (12 336)	43.4 (13 311)	41.5 (244)	48.1 (284)
Slow improvement (0 ≤ slope < 0.5 dB/yr)	25.7 (7863)	31.6 (9705)	25.5 (150)	29.7 (175)
Moderate improvement (0.5 ≤ slope < 1 dB/yr)	5.9 (1798)	4.7 (1442)	5.1 (30)	4.1 (24)
Fast improvement (slope ≥ 1 dB/yr)	2.0 (600)	1.3 (394)	1.7 (10)	1.2 (7)

Data are percent (number). SLT = selective laser trabeculoplasty.

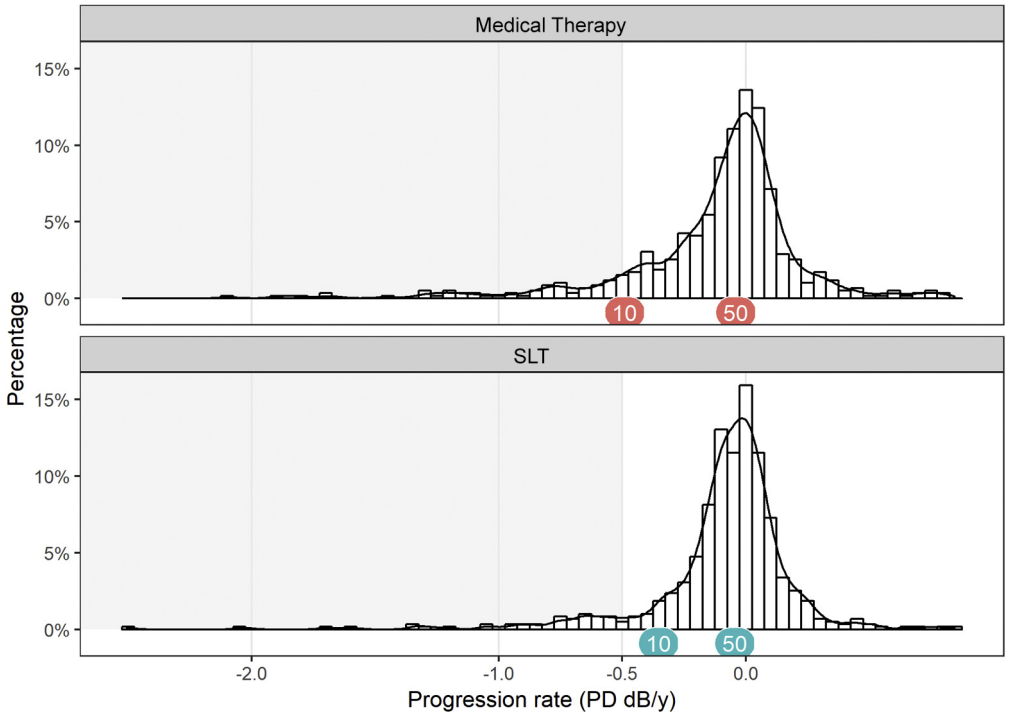

Figure 2. Graph showing the distribution of estimated global pattern deviation (PD) progression rates by treatment group. The median and tenth percentiles are indicated. The curved line represents a smoothed density estimate to the histogram.

show higher rates of concordance than those in routine care.[26] Thus, the true magnitude and clinical importance of the slowing of VF progression in the SLT group may be much greater. Selective laser trabeculoplasty has also been proposed to provide better diurnal IOP stability as a result of a continuous effect on the trabecular meshwork.[27–30] This is in contrast to the episodic (and sometimes erratic) administration of medication that may allow greater diurnal fluctuation in IOP and in turn faster disease progression. Even with exact concordance with instillation regimens, long gaps between doses overnight are likely, during which IOP may rise.

We observed differences in VF progression between treatment groups despite the fact that both groups were treated to similar IOP targets. This indicates that monitoring of IOP reduction alone (usually measured during office hours and so potentially unrepresentative of diurnal pressure variation) may be insufficient to predict functional changes indicative of progression. This suggests that clinical trials of new glaucoma treatments should include both IOP- and VF-related outcomes. Greater differences were observed for TD, hinting that nonglaucomatous changes may also have contributed toward differences between groups. Changes in TD may be caused by a number of nonglaucomatous conditions, such as cataract. Were there higher rates of cataract in the medical therapy group, it could partially explain the tendency toward faster TD progression. During the period covered by this analysis, cataracts were removed from 10.9% of eyes in the medical therapy group and 7.1% of eyes in the SLT group. Assuming that cataracts not yet requiring surgery follow this distribution, generalized depression of sensitivity resulting from lens opacity may have contributed to the differences in TD rate between the 2 treatment groups. This is consistent with the higher rates of cataract after topical medical treatment of glaucoma previously reported by landmark glaucoma studies,[31–34] and

Table 3. Distribution of Estimated Pattern Deviation Progression Rates by Treatment Group

Progression Rate	Locations		Eyes	
	Medical Therapy	*SLT*	*Medical Therapy*	*SLT*
Fast ($-1 >$ slope [dB/yr])	4.6 (1403)	3.2 (967)	3.4 (20)	1.7 (10)
Moderate ($-1 \leq$ slope < -0.5 dB/yr)	6.9 (2103)	5.1 (1565)	6.5 (38)	5.4 (32)
Slow ($-0.5 \leq$ slope < 0 dB/yr)	46.6 (14 234)	48.9 (14 990)	51.7 (304)	55.6 (328)
Slow improvement ($0 \leq$ slope < 0.5 dB/yr)	38.9 (11 900)	40.6 (12 471)	36.2 (213)	36.1 (213)
Moderate improvement ($0.5 \leq$ slope < 1 dB/yr)	2.6 (805)	1.8 (557)	2.2 (13)	1.0 (6)
Fast improvement (slope ≥ 1 dB/yr)	0.4 (131)	0.4 (130)	0 (0)	0.2 (1)

Data are percent (number). SLT = selective laser trabeculoplasty.

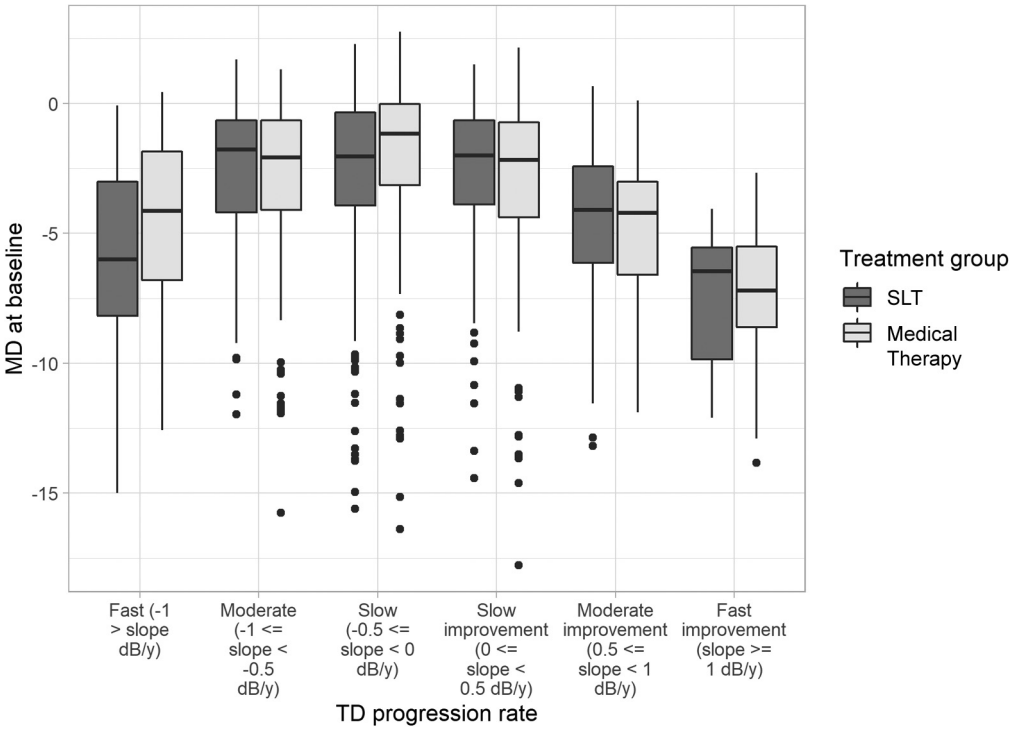

Figure 3. Box-and-whisker plot showing the distribution of mean deviation (MD) at baseline by estimated total deviation (TD) progression rates.

itself may contribute to a significant clinical advantage of an initial SLT compared with an initial medical therapy protocol. Our sensitivity analysis showed that differences between treatment groups were narrowed when eyes that underwent cataract removals were excluded. Pattern deviation models were as strongly influenced by the exclusions as TD models. For example, after the exclusions, no statistical evidence was found for a difference in the proportion of

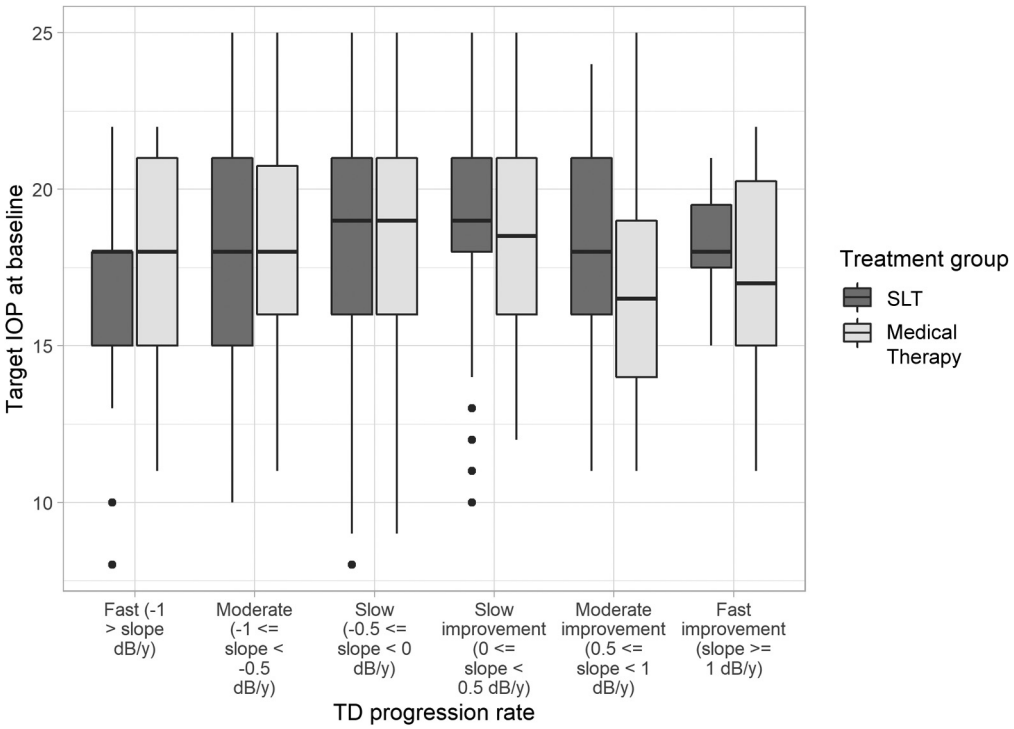

Figure 4. Box-and-whisker plot showing the distribution of target intraocular pressure (IOP) at baseline by estimated total deviation (TD) progression rates.

eyes undergoing fast or moderate PD progression (there remained strong evidence for a difference in the proportion of locations with moderate or fast progression). This may indicate that as well as having lower sensitivity than TD,[20] PD may not be immune to the influence of cataract. Alternatively, the similar responses of TD and PD after exclusions may indicate that cataract was not driving the between-group differences. Instead, cataract formation may be associated with faster glaucoma progression (with oxidative stress being a potential biological basis for the association), and by excluding cataract removal eyes, much of the glaucoma signal may have also been excluded. Considering that we still found clinically relevant differences between treatment groups after exclusion of eyes from which cataracts were removed, and recognizing the limitations of both TD and PD, we conclude that greater incidence of both cataract-related and glaucomatous progression in the medical therapy group is likely to have contributed to the observed differences between treatment groups.

In this study we robustly compare VF outcomes between IOP-lowering drops and SLT; previous research has focused on IOP lowering alone as a surrogate for disease control. In the absence of a universally accepted, standardized classification of rates of VF progression, we adopted that used by Chauhan et al[21]: fast progressors as less than −1 dB/year (−1 dB/year is approximately 10 times faster than age-related decay). Although statistical methods differ among studies, our estimates of global TD progression are broadly comparable with MD rates in clinical glaucoma populations, which report median progression rates ranging from −0.62 dB/year to −0.05 dB/year.[21,35,36] For the formal comparisons of the medical therapy versus SLT groups, we reported the proportion of eyes with moderate or fast progression, combining these categories to ensure reasonable data support for each outcome. These figures are not directly comparable with the number of VF progressions reported in the recent article on the primary outcomes of the LiGHT study,[6] in which progression was detected using guided progression analysis. The proportions reported here are larger, possibly because trend-based methods are more sensitive for detecting progression than event-based methods such as guided progression analysis,[15] especially given the relatively high upper threshold of the moderate and fast classifications (−0.5 dB/year). Also, this analysis covers a longer follow-up period, extending beyond the 36-month point reported previously, and so a larger proportion of eyes would be expected to show evidence of VF progression in our study. Despite these methodologic differences, both analyses report higher risks of VF progression in the medical therapy group that may be related to the higher rates of disease deterioration reported previously.[6]

This VF analysis is more detailed than those reported previously for the LiGHT study[6,14,37] in that pointwise rates were modeled and then averaged to produce global rate estimates, retaining more information than if global VF measures such as MD or pattern standard deviation had been used. Furthermore, we considered the overall shapes of the progression rate distributions, rather than using the mean of each distribution, as the single point of comparison. We showed that differences between treatment groups were manifest only toward the more rapidly progressing end of the rate distribution. If we had concentrated solely on mean TD and PD, we would have found no differences between treatment groups, consistent with the MD and pattern standard deviation results reported at 36 months.[14]

The data derived for this study were drawn from a carefully conducted, randomized controlled trial. Patients were monitored according to routine clinical care; the trial used eye-specific IOP targets that were defined objectively and adjusted by a computerized decision algorithm to avoid bias.[12] Similarly to avoid bias in clinical decision making, treatment escalation decisions were initiated by the computerized decision algorithm, which followed a robust protocol developed according to international guidelines by the European Glaucoma Society, the American Academy of Ophthalmology Preferred Practice Pattern, and the South-East Asia Glaucoma Interest Group.[38–40] The decision support algorithm used in the LiGHT study has been described in detail before.[12,14] The success of this strategy is highlighted by the well-matched distributions of baseline damage and IOP targets between treatment groups (Table 1; Figs 3 and 4). As a result, any differences in VF progression between treatment groups reflect genuine change, in the presence of identical IOP control practices between the 2 groups. Patients treated first with laser exhibited slower VF progression, as shown in this study, in addition to better IOP control, less intense medical and surgical treatment, and lower rates of disease deterioration.[6]

The data presented here support the use of SLT as a first-line treatment for glaucoma and OHT as suggested by the previously reported improved clinical outcomes, lower treatment intensity, and cost savings for the National Health Service. With slower VF deterioration, SLT may delay or completely avert the need for more intense medical and surgical intervention in a significant proportion of patients.

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Abbreviations and Acronyms:
IOP = intraocular pressure; **LiGHT** = Laser in Glaucoma and Ocular Hypertension; **MD** = mean deviation; **OHT** = ocular hypertension; **OR** = odds ratio; **PD** = pattern deviation; **RR** = risk ratio; **SLT** = selective laser trabeculoplasty; **TD** = total deviation; **VF** = visual field.

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