IMPACT OF COMPLIANCE ON INTRA-OCULAR PRESSURE (IOP) CONTROL IN GLAUCOMA PATIENTS
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OBJECTIVES: To identify and characterize glaucoma patient compliance profiles and to evaluate the impact on treatment efficacy. METHODS: A computerized device (Travalert®) that collects daily instillation time and number of drops was given to a cohort of patients for three months. A patient was declared compliant when at least 2 drops per day were instilled, one in each eye. Two compliance rates were calculated per week: during the weekend and the remaining ‘working’ days. Principal component analysis (PCA) was performed followed by an ascendant hierarchical classification (AHC) to identify groups of compliant patients. Their characteristics were compared using chi-square or ANOVA. RESULTS: A total of 113 patients were included (mean age 66.5, 51.8% male), and 86.7% had primary open angle glaucoma. Mean IOP was 24.2 mmHg before using Travalert®. 57.5% were treated with Duotrav® and 42.5% with Travatan®. PCA identified two axes (compliance intensity and week effect), explaining 63.0% of the variance. AHC identified 3 compliance groups: good (56.6% of the patients, compliance around 80%), mild (21.2% of the patients, compliance around 50%) and poor (22.1% of the patients, compliance around 20%). No predictive variables (demographic or medical) of poor compliance were identified. At the last visit, IOP was 16.1 mmHg on average and statistically significantly higher in the poor compliance group (17.7 mmHg; P = 0.02). CONCLUSIONS: Compliance, measured objectively with a medical device, remains a major issue in glaucoma treatment since about half the patients had compliance lower than 80%. This impacted IOP control, a surrogate end-point of glaucoma progression. None of the medical and demographics variables were associated with poor compliance. Compliance, measured objectively with a medical device, remains a major issue in glaucoma treatment since about half the patients had compliance lower than 80%. This impacted IOP control, a surrogate end-point of glaucoma progression. None of the medical and demographics variables were associated with poor compliance, suggesting that forthcoming compliance research should identify new targets (e.g. behavior) to identify patients benefiting from a compliance training program.

A MIXED TREATMENT COMPARISON OF TOPICAL OCULAR HYPTENSIVES FOR THE TREATMENT OF GLAUCOMA AND OCULAR HYPERTENSION
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OBJECTIVES: To compare the efficacy of topical ocular hypotensives for the treatment of intraocular hypertension and glaucoma. Adverse events that may affect patients’ willingness to comply with treatment were also assessed. METHODS: A systematic review was conducted to identify randomized controlled trials in patients with glaucoma or ocular hypertension with a prostaglandin analogue treatment arm. A total of 181 eligible articles were identified with 73 suitable for meta-analysis. A mixed treatment comparison (MTC) was performed to estimate the relative efficacy of the treatments. Studies connected to latanoprost and reporting the mean and standard deviation in absolute intraocular pressure (IOP) at three months were used in the MTC since this maximised the analysis dataset. Baseline IOP was included as a covariate in the MTC. Random effects models were used, as study variance indicated some degree of heterogeneity. A second MTC was conducted to estimate the rate of hyperaemia-type adverse events. RESULTS: The mean IOP at three months for latanoprost is 17.42 mmHg from a baseline of 23.5 mmHg. Latanoprost is statistically significantly better at lowering IOP versus timolol, and latanoprost and timolol is statistically significantly more efficacious versus latanoprost alone. There were no further statistically significant differences in mean IOP for latanoprost versus any other treatments. The hyperaemia event rate for latanoprost is 25.18%. Using the odds ratio results compared to latanoprost, timolol has a statistically significantly lower event rate. Travoprost, bimatoprost, travoprost and timolol, bimatoprost and timolol, latanoprost and dorzolamide have statistically significantly higher event rates. CONCLUSIONS: The results indicate that there is no clinically relevant difference in IOP lowering between treatments except for timolol. However there are