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Service (sector) Glaucoma N° CEP

**Visual function alterations in primary open angle glaucoma correlated to intra-ocular pressure reduction using antiglaucoma medications: a randomized clinical trial.**

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**Purpose:** To verify if there is any correlation between the intra-ocular pressure (IOP) reduction and visual function exams alterations in primary open angle glaucoma (POAG). **Methods:** Fifty (50) glaucomatous patients (50 eyes) without using antiglaucoma medication were prospectively enrolled in this study. After inclusion, the patients received randomly one of three antiglaucoma medications: timolol maleate 0.5% , brimonidine 0.2% or travoprost 0.004% in one randomly selected eye. The patients underwent Goldmann applanation tonometry, best-corrected visual acuity and contrast sensitivity tests, visual quality perception (visual analogue scale), and standard automated perimetry in a random sequence before and after 4 weeks of glaucoma treatment onset. It was used pared t-test, ANCOVA and Spearman test fot statistics analysis. **Results:** Before treatment, the medians of IOP, visual acuity (log MAR), visual quality perception and standard-automated-perimetry MD index were 22.5 mmHg, 0.2, 7, and -5.42 dB, respectively. After the 4-week treatment, the medians of those exams were 17.5 mmHg, 0.2, 8, and – 4.35 dB, respectively. The changes in IOP after the onset of glaucoma treatment were statistically significant. There were statistically significant correlations between changes in IOP and in visual quality perception with travaprost and changes in IOP and in the 1,5 cycles/degree contrast sensitivity in patients using brimonidine. No significant correlations between IOP and visual function changes were found in patients using timolol. **Conclusion:** Although some correlations between reduction in IOP and visual function were found in glaucomatous patients using travoprost and brimonidine, it would be necessary more significant alterations to affirm that the IOP lowering has an important role in visual function changes.