

**Pneumatic trabeculoplasty vs latanoprost as adjunctive therapy to timolol in primary open-angle glaucoma or ocular hypertension.**

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**PURPOSE:** To evaluate the efficacy and safety of pneumatic trabeculoplasty (PNT) compared with latanoprost 0.005%, in primary open-angle glaucoma (POAG) and ocular hypertension (OH) not controlled by timolol 0.5%. **PROCEDURES:** In a randomized clinical study, 18 patients affected with primary open-angle glaucoma (POAG) or ocular hypertension (OH) with intraocular pressure (IOP) >20 mmHg after timolol 0.5% in one eye were treated with PNT; 18 control eyes received adjunctive therapy with latanoprost 0.005%. Visual acuity, IOP, visual field, biomicroscopy findings and fundus appearance were evaluated at each month. Patients with IOP >20 mmHg were excluded from the study. The study was continued until in one group no patients were left. **RESULTS:** At 1 month, IOP had decreased significantly in both groups. In PNT-treated eyes the mean IOP decrease was 4.5 +/- 1.8 mmHg (19.1 +/- 7.8%) and in latanoprost-treated eyes was 6.6 +/- 1.3 mmHg (28.2 +/- 5.7%) (between two groups,  $P < 0.001$ ). Eleven PNT-treated eyes (61%) and 17 latanoprost-treated eyes (94%) had an IOP reduction of more than 20% of baseline value ( $P = 0.049$ ); two PNT-treated patients received additional therapy. At the following months, in the latanoprost group, IOP was stable: an IOP reduction of 20% or more was seen in 89% of the eyes. In some PNT-treated eyes IOP increased: at 2 months, an IOP reduction  $\geq 20\%$  was seen in 50%, at 3 months in 33%, and at 4 months in 17% of the eyes. (between the two groups, respectively,  $P = 0.03$ ,  $P = 0.002$ ,  $P < 0.001$ ). The number of eyes that required therapy increased progressively in the PNT group, and at 8 months all eyes had required therapy, whereas one latanoprost-treated eye had had additional therapy. After PNT, no patients had visual acuity reduction or intraocular inflammation; three eyes had subconjunctival hemorrhage and five eyes a hyperemia that regressed within 1 week. No posterior segment changes or visual field progression were detected in either groups. **CONCLUSIONS:** In eyes with glaucomatous damage that is not advanced, PNT can reduce the IOP in 60% of the eyes at 1 month, and in 33% of the eyes at 3 months, without significant side-effects. The indications, efficacy and safety of PNT retreatments remain to be investigated. IOP reduction is less and of shorter duration than that obtained by latanoprost adjunctive therapy.