

# Changes in intraocular pressure and ocular perfusion pressure after latanoprost 0.005% or brimonidine tartrate 0.2% in normal-tension glaucoma patients

邱文祥

Liu;Catherine J.;Ko;YC;;YC;Cheng;CY;;Chiu;Allen .W;

摘要

## Abstract

**Objective:** To evaluate and compare the effects of latanoprost 0.005% once daily and brimonidine tartrate 0.2% twice daily in patients with normal-tension glaucoma (NTG). **Design:** A randomized, open-label, crossover study. **Participants:** Twenty-eight NTG patients with progressive visual field defects/optic disc excavation, new disc hemorrhage, or field defects that threatened fixation. **Intervention:** Patients were randomly allocated to one of two groups. Patients in group 1 were treated with latanoprost, lubricant, and brimonidine for 4 weeks each, whereas patients in group 2 were treated with brimonidine, lubricant, and latanoprost for 4 weeks each. **Main Outcome Measures:** Intraocular pressure (IOP), pulse rate, and blood pressure were measured at 8 am, 12 noon, and 4 pm after each 4-week treatment. Ocular perfusion pressure (OPP) was calculated. **Results:** Latanoprost and brimonidine reduced the average IOP by  $3.6 \pm 1.9$  mmHg ( $P < 0.001$ ) and  $2.5 \pm 1.3$  mmHg ( $P < 0.001$ ), respectively, with a significant difference between the two regimens ( $P = 0.009$ ). Both drugs significantly reduced IOP at each time point. Latanoprost decreased IOP significantly more than did brimonidine at 8 am ( $11.7 \pm 2.2$  mmHg vs.  $13.7 \pm 2.1$  mmHg,  $P = 0.004$ ) and 4 pm ( $11.4 \pm 2.1$  mmHg vs.  $13.2 \pm 2.9$  mmHg,  $P = 0.004$ ), but IOP was equal between the two agents at 12 noon ( $11.5 \pm 2.6$  mmHg vs.  $11.5 \pm 2.3$  mmHg,  $P = 0.967$ ). IOP was maintained at 12 mmHg or lower in 18 (66.7%) of 27 patients after treatment with latanoprost and in 9 (33.3%) of 27 patients after treatment with brimonidine. Latanoprost monotherapy reduced IOP by 30% in 8 patients (29.6%), but brimonidine monotherapy did not reduce IOP by that much in any of the patients. OPP increased after latanoprost treatment ( $P < 0.001$ ) but did not increase after brimonidine treatment ( $P = 0.355$ ). There was no significant change in pulse rate or blood pressure. **Conclusions:** Both latanoprost and brimonidine reduce IOP in NTG patients. Brimonidine has a peak IOP-lowering effect equal to that of latanoprost but produces a higher mean diurnal IOP

than does latanoprost because of its shorter effect. Latanoprost might favorably alter optic disc blood perfusion by increasing OPP.