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Short Report

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Acute Dynamic Exercise Reduces Intraocular Pressure

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In recent years, several studies have shown that exercise reduces intraocular pressure (1-3). In this study, the effect of exercise on intraocular pressure was evaluated in normal healthy young subjects. Subjects were 17 male and 11 female high school students, 18-22 years of age (M= 19.5, SD= 1.67). Subjects who had ocular problems were excluded from the study.

The resting intraocular pressures of both eyes were assessed by aplanation tonometry. Then, subjects ran at 30% of their maximum rate for 6 minutes. Intraocular pressures were assessed after exercise.

Student's t test was used for statistical evaluation, with the Statgraphics computer program.

The mean intraocular pressures of the righ and left eyes before exercise were 16.05±2.39 mmHg and 16.11±2.12 mmHg respectively. The mean intraocular pressures of the right and left eyes after exercise were 12.21±2.22 mmHg and 12.59±1.38 mmHg respectively. The differences in mean intraocular pressures between, before and after exercise for the right and left eyes were statistically significant (t= 11.84, p= 0.0; t= 9.64, p= 0.00).

The findings of the present study are consistent with the literature (1-3). As a consequence, acute dynamic exercise has been found to reduce intraocular pressure.

Quereshi has reported that physical fitness causes significant attenuation in the intraocular pressure (4). Quereshi et al. concluded that the intensity of exercise seems to be responsible for the magnitude of the decrease in the resting intraocular pressure after short-term exercise (5). Martin et al. claimed that acute dynamic exercise seem to change intraocular pressure through changes in plasma colloid osmotic pressure (6). Kiuchi et al. have reported that the amount of intraocular pressure reduction after short-term exercise seems to depend on the intensity of exercise, not on the duration or the quantity of exercise (7).

Passo et al. have reported that regular aerobic exercise is associated with a reduction in elevated intraocular pressure (8). Thus we conclude that acute dynamic exercise may represent an effective non-pharmacologic intervention for patients suspected of having glaucoma.

References

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