

Antioxidant complex supplementation and aerobic exercise capacity in rats

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Abstract

Background. Protection from oxinitrosative stress can be provided by dietary antioxidants and the supplementation with various antioxidant preparations that under exercise conditions can contribute to the maintenance of exercise capacity and post-exercise recovery. We chose a preparation with a complex antioxidant formula: vitamins, fruit and plant extracts, patented lycopene, grape and olive extracts.

Aims. The effect of antioxidant complex supplementation on the aerobic exercise capacity of rats was monitored.

Methods. The groups were divided as follows: group I - exercise trained; group II - exercise trained and supplemented with an antioxidant complex; group III - loaded with 15% of weight and exercise trained; group IV - loaded with 15% of weight, exercise trained and supplemented with an antioxidant complex. Aerobic exercise capacity was measured using the running test.

Results. Antioxidant supplementation and moderate intensity physical exercise cause a significant increase in aerobic exercise capacity compared to physical exercise of the same intensity without supplementation. Antioxidant supplementation and high intensity physical exercise induce a significant increase in aerobic exercise capacity compared to physical exercise of the same intensity without supplementation.

Conclusions. Antioxidant supplementation and high intensity physical exercise determine a significant decrease in aerobic exercise capacity compared to moderate intensity physical exercise with and without antioxidant supplementation.

Keywords: physical exercise, antioxidants, rats.