

Vitamin A, E and C supplementations and the aerobic exercise capacity in rats (Note I)

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Abstract

Background. The relationship between exercise and vitamins and the influence of exercise on the content of vitamins in the human body, on the one hand, and the ergogenic effect of vitamin supplementations during exercise, on the other hand, determined us to explore the influence of antioxidant vitamin A, E and C supplementations on the aerobic exercise capacity in rats.

Aims. The influence of vitamin A, E and C supplementations on the aerobic exercise capacity in rats was investigated.

Methods. The investigation was carried out on groups of 10 male albino Wistar rats (weighing 170-190 g): group I – control group, group II - with vitamin A supplementation (150,000 IU/day); group III - with vitamin E supplementation (15 mg/day); group IV - with vitamin C supplementation (50 mg/day). All the groups were exercise trained daily using the swimming test for 28 days.

Results. The aerobic exercise capacity increased significantly in exercise trained animals supplemented with vitamin E and C, as compared with the first day. The increase of the aerobic exercise capacity was the highest after supplementation with vitamin A.

Conclusions. Supplementation with A, E and C vitamins has significant favorable effects on exercise. The aerobic exercise capacity increased significantly in animals trained to exercise (the swimming test) with vitamin supplementations, compared with first day values.

Keywords: exercise, vitamins: A, E and C.