

Original Paper

Effect of short and medium periods of high intensities aerobic training on serum level of superoxide dismutase and Catalase enzymes in rats

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Abstract

Background and Objective: Physical activities affect on antioxidative pathway. Varsity, period and intensity of activities are important in health improvement. This study was carried out to determine the effect of short and medium periods of high intensities aerobic training on serum level of superoxide dismutase (SOD) and Catalase (CAT) enzymes in female rats.

Methods: In this experimental study, 45 Sprague Dawley female rats were randomly allocated into control, short (4 weeks) and medium (8 weeks) of high intensities aerobic training groups. The exercise program was performed on 5 session in each week with speed of 10-17 meters per minute in slope range (5<slope<15) for 15-60 minutes. Serum level of CAT and SOD enzymes were determined by ELISA method.

Results: Serum level of superoxide dismutase was 98.8±12.8, 126.4±10.2 and 115.1±14.2 U/ml in control, short and medium periods of high intensities aerobic training groups, respectively. Serum level of Catalase was 51.2±7.2, 43.7±5.3 and 52.1±6.3 U/ml in control, short and medium periods of high intensities aerobic training groups, respectively. These differences were not significant.

Conclusion: Short and medium periods of high intensities aerobic training do not have any influence on serum level of SOD and CAT antioxidant enzymes in female rats.

Keywords: Aerobic training, Superoxide dismutase enzyme, Catalase enzyme, Rat

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