

Original Paper

Effect of endurance swimming training on serum homocysteine level and atherogenic index in rats

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Abstract

Background and Objective: Homocysteine and atherogenic index are significant and independent risk factors for cardiovascular diseases. This study was done to determine the effect of 10 weeks endurance swimming training on serum homocysteine level and atherogenic index in rats.

Methods: In this experimental study, 20 adult male Wistar rats (180±20 g) were randomly allocated into control (n=10) and experimental (n=10) groups. Animals in experimental group swam ten weeks of endurance training (5 days a week, for 60 minutes a day) with a 5% body weight load attached to the tail. At the end of 10 weeks and after the last of training session and 12 hours of fasting animals were sacrificed. Blood samples were taken and serum homocysteine level, atherogenic index and NON-HDL-cholesterol were measured.

Results: Serum homocysteine level, atherogenic index and NON-HDL-cholesterol of animals significantly reduced in the experimental group compared to the controls (P<0.05).

Conclusion: Ten weeks of endurance swimming training with low to moderate intensity improves homocysteine level and atherogenic index in animal model.

Keywords: Endurance swimming training, Homocysteine, Atherogenic index, NON-HDL-cholesterol, Rat

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