Original Paper

Effect of four weeks of endurance training on serum level of paraoxonase-1 and lipid profile in non-athlete obese men

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Abstract

Background and Objective: Paraoxonase-1 is an important factor in preventing lipid oxidation and formation of oxidized low-density lipoprotein. There are conflicting reports on the impact of physical activity on serum level of Paraoxonase-1. This study was done to determine the effect of four weeks of endurance training on serum level of Paraoxonase-1 and lipid profile in non-athlete obese men.

Method: In this clinical trial study, sixteen obese healthy non-athletic men randomly divided into intervention and control groups. Subjects in interventional group were practiced endurance running periodic for four weeks, three sessions a week with 65-80% of maximum heart rate. Blood samples collected 48 hours perior the first and 48 hours following the final training. Serum level of Paraoxonase-1 and lipid profile including cholesterol, triglycerides, low-density lipoprotein and high-density lipoprotein were measured by ELISA method.

Results: At the end of the training, the serum level of of paraoxonase -1 increased 15.57% ($P<0.05$) in interventional group and non-significantly reduced in control group (19.25%). The serum level of serum Paraoxonase-1 in interventional group significantly increased compared to controls ($P<0.05$). The serum level of low-density lipoprotein in interventional group significantly reduced in comparision with controls ($P<0.05$).

Conclusion: 4 weeks of endurance training increased serum level of paraoxonase -1 and decreased low-density lipoprotein in non-athlete obese men.

Keywords: Obesity, Endurance training, Paraoxonase-1 enzyme, Low-density lipoprotein, High-density lipoprotein, Male

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Received 29 Oct 2013 **Revised** 7 Apr 2014 **Accepted** 16 Apr 2014

This paper should be cited as: Amouzad Mahdirejei T, Berarei AR, Farzanegei P, Ahmadi M. [Effect of four weeks of endurance training on serum level of paraoxonase-1 and lipid profile in non-athlete obese men]. J Gorgan Uni Med Sci. 2014; 16(3): 9-15. [Article in Persian]