

The Effect of Aerobic Training Program on Some Pro-Inflammatory Cytokine in Smokers

Authors : Laleh Behboudi Tabrizi, Melika Naserzare

Abstract : Accumulating experimental and epidemiologic data smoker individuals are more prone to systemic inflammation than non-smokers. In this study we aimed to determine serum TNF- α and C-reactive protein (CRP) as pro-inflammatory cytokines in response to 3 months aerobic training in smoker men. A total 30 middle-aged healthy smokers selected for participate in this study and were divided into either control or exercise groups. The subjects in exercise group were completed a 3 months aerobic training program for 3 sessions per week at 60 - 80 % of maximal heart rate. Those in control group did not participated in exercise training. Pre and post-training of CRP and TNF- α were measured in two groups. Student's t-tests for paired samples were performed to determine whether there were significant within-group changes in the outcomes. P value of <0.05 was accepted as significant. No significant differences were found in anthropometrical and biochemical markers between two groups at baseline. Aerobic training program resulted in a significant decrease in anthropometrical markers and serum TNF- α but not in serum CRP in exercise group. All variables remained without changes in control groups. Based on these finding, it is concluded that aerobic training can be improve inflammatory cytokine with emphasis on TNF- α in smokers.

Keywords : cigarette, cytokine, chronic training, inflammation

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