

The Effect of 8 Weeks Aerobic Training and Nitro-L-Arginine-Methyl Ester (L-NAME) on Plasma apelin in Male's Rats

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Abstract : Background and Objective: evidence supports systemic inflammation in obesity and insulin resistance. Apelin that is secreted by adipose tissue plays an important role in the inflammation process and appear act as an anti-inflammatory cytokines. The aim of this study was the effect of eight weeks aerobic training and nitro-L-arginine-methyl ester (L-NAME) on plasma apelin in male's rats. Materials and Methods: For this purpose, 24 male Wistar rats aged 20 months were randomly assigned into four groups: Control, training, training and L-NAME and L-NAME. Training intervention was eight weeks aerobic exercise (5 time/weekly) at 75-80 (%) of maximal oxygen consumption. All rats were killed 72 hours after lasted exercise session; blood samples collected and plasma were stored. Data was analyzed by one way ANOVA and Tucky Test. A p value less than 0.05 was considered statistically signigcant. Results: The results showed that after eight weeks of endurance training exercise Apelin plasma compared to the control group did not change significantly. Also, the results showed that there was significant difference in plasma Apelin between groups($P > 0/05$). Also, the results showed no significant difference between the insulin levels and glucose of four groups ($P > 0/05$). Conclusion: It seems that aerobic exercise plasma Apelin levels in male rats is not affected. On the other hand, nitric oxide inhibitors can reduce levels of plasma Apelin.

Keywords : aerobic training, L-NAME, plasma Apelin, male's rats

Conference Title : ICHNFS 2015 : International Conference on Human Nutrition and Food Sciences

Conference Location : Rome, Italy

Conference Dates : September 17-18, 2015