



Effect of 8 weeks of exercise training on the genes expression of bax and bcl2 in the liver tissue of male wistar rats

Oral Presentation

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Abstract

Introduction: The liver is the central organ for the breakdown, detoxification, and excretion of waste products from the body. During detoxification, activation of liver microsomes by cytochrome P450 enzymes induces toxic and active secondary metabolites. These compounds can damage various tissues, including the liver. The aim of this study was to investigate the effect of 3 different sports methods on the expression of bax and bcl2 genes in liver tissue.

Methods: For this purpose, 32 Wistar male rats with a mean age of 2 months and a weight of 250 g were selected. The mice were randomly divided into four control groups of 8 weeks (CO8), moderate-intensity aerobic exercise, high-intensity aerobic exercise, and intense periodic aerobic exercise. The mice were active for 8 weeks after warming up. Tissue removal was performed 24 hours after the last training session to examine the expression of the gene for bax and bcl2 markers by RT-PCR. A one-way ANOVA statistical test was used with LSD test at the level ($p < 0.05$) to analyze the data.

Results: The findings show that there is a significant difference in the expression of bax and bcl2 genes in the liver tissue of male rats between the three methods of exercise HIT, MIT, HIIT, and control group. Exercise significantly reduced the bax gene and significantly increased the bcl2 gene.

Conclusion: Based on the present study results, it can be said that exercise modulates the activation of apoptotic activating proteins in the liver and exerts a protective effect on the liver by reducing the BAX / BCL-2 ratio.

Keywords

Exercise Training; Bax; BCL2; Wistar male rats

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