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EFFECTS OF COENZYME Q10 ON THE OXIDATIVE STRESS AND HEAT SHOCK PROTEINS IN EXERCISE RATS

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ABSTRACT

OBJECTIVE: In this reserach,it has been tried to observe the effects of coenzym Q10 on oxidative stress, heat shock proteins and biochemistry serum parameters in rats applied exercise.

METHODS: It has been used totally 42, aged eight weeks, Wistar Albino Rats which is grouped of 6 (control,coenzym Q10,exercise,exercise+coenzym Q10,acute exercise ve acute exercise+coenzym Q10) each of them contains 7 rats. In the begining, the rats are made to run 10 m/min and at the end of two weeks, the thirty minutes running process being %0 slope and 30 m/min was implemented in a controlled increase. The rats have been tested to run 5 days a week along six weeks after applying coenzym Q10 on a diet and on the last day, acute exercise process (running on the band untill tired) has been applied.

Datas have been evaluated by using ANOVA process in the IBM SPSS (version 22) packaged software.The comparison among groups have been analized with the help of Turkey Post Hoc Test.The datas have been given as group avarage and standart error of mean (SEM). Statistical significance has been defined as meaningfull for the ones whose probablity values are under the point of 0.05.

RESULTS AND CONCLUSIONS: Finally, it's been seen that there is no effect of coenzym Q10 on the functions of liver or kidney and coenzym Q10 doesn't effect glucose on cardiometabolic biochemical parameters.In addition to these, it decreases cholesterol and triglyceride.While acute exercise increases oxidative stress,chronic exercise decreases oxidative stress by reducing the level of lipid peroxydation. It has shown this effect by means of regulating heat shock proteins.Also, it has shown the effect of consumption of coenzym Q10 by reducing heat shock protein.Moreover, it has been observed that chronic exercise and coenzym Q10 decreases oxidative stress by working synergistically.

Keywords: Exercise, Coenzym Q10, Oxidative Stress, Heat Shock Proteins.