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EFFECTS OF BIOTIN AND CHROMIUM HYSTIDINE GLUCOSE METABOLISM ON PPAR- γ , IRS-1 VE NF-KB EXPRESSION ON THE RATS WHICH ARE IMPLEMENTED EXERCİSE

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ABSTRACT

OBJECTIVE: The aim of the study is that the effects of biotin and chromium hystidine glucose metabolism on PPAR- γ , IRS-1 ve NF-kB expression on the rats which are implemented exercise throughout 8 weeks.

METHODS: Initially, the rats run a speed of 10m/min, and they reach a speed of 30m/min (speed can be changed) with controlled increase at the end of two weekly adaptation period. (Treadmill, MAY-TME 0804, Commat Limited, Ankara) After implementing chromium hystidine and biotin with diet to rats, they are subjected to treadmill in 5 days throughout 6 weeks, and exhaustion exercise is implemented for acute exercise in the last day. The slope of treadmill can be arranged between 0° and 15°. Treadmill test is done between 1pm and 4pm. (For ruling out basic glucocorticoid activity)

RESULTS: As a conclusion, chronic exercise + chromium hystidine + biotin supplement decreases to triglyceride level significantly. Also, chronic exercise + chromium hystidine + biotin supplement decreases to glucose level significantly. The exercise is not affect significant on ALT and AST level in term of statistical. In addition to this, biotin supplement is shown difference by decreasing HDL level. Also, the CrHis consumption of rats which are in the control group increased PPAR- γ , IRS-1, decreased Nfkb. In the exercise group, KE+CrHis+Biotin supplement increased PPAR- γ , IRS-1 level and decreased NFkB level. Biotin and chromium hystidine supplement with exercise implementation has effective on blood fats and glucose level. Data are evaluated through IBM SPSS (version 22) packaged software by using ANOVA procedure.

CONCLUSIONS: With the obtained current data and results of the exercise implementation, we think that biotin and chromium hystidine supplement give an important role on the human's health. Thus, the implementation of exercise + chromium hystidine and biotin supplement for athletes can be an implementation of performance improving and sanitation.

Keywords: Biotin, Chromium Hystidine, PPAR- γ , IRS-1, NF-Kb