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The effect of feeding with resveratrol on the myogenin and mTOR levels in mice

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The study has been carried out at the Başkent University Experimental Animal Research Center; 14 young adult Swiss Albino mouse were randomly divided into two groups such as the, experimental group (n: 7) and control group (n: 7). The experimental group received 20 mg/kg/day resveratrol for seven consecutive days intraperitoneally. At the end of the seventh day, the gastrocnemius muscles were removed under general anesthesia, their weights were recorded and they stored at -80°C for mTOR and myogenin analysis. To determine the myogenin and mTOR levels Elisa method was used. The average weight of the experimental group was (22.11±3.22 g) statistically lower than the average weight of the control group (28.63±3.80 g) (p<0.05). If evaluated in terms of the right gastrocnemius muscle weight, the experimental groups' average weight was found 0.09±0.03 g, whereas the control groups' weight was found 0.12±0.02 g and the difference was statistically significantly low (p<0.05). No statistical difference was found between the groups, in terms of mTOR and myogenin average levels (p>0.05). According to the results of this study, it was found that resveratrol has weight reducing effects without having an obesity model, resveratrol intervention has no protective effect against muscle atrophy. Furthermore, there were no changes in the mTOR levels which were expected to decrease during atrophy. Resveratrol effects on muscle tissue is a relatively little-studied subject; to detect these effects more studies are needed to investigate the effective dose, time and metabolic pathways on muscle mass.

Biography

Gül Kızıltan has completed her PhD in 1998 from Hacettepe University, Institute of Health Science, Nutrition and Dietetics Program. She has been working at Başkent University since 1993. She is a Vice Dean of Başkent University Health Science Faculty and Head of Nutrition and Dietetic Department. She has published more than 50 papers and presented more than 100 researches in national and international scientific platforms and worked in several projects as a Coordinator and Researcher.

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