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Comparison of blood creatinine level in elderly men untrained and competitive trained in response to resistance training and melatonin supplements

Poster Presentation

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Authors

¹Masoud Khorsandi Kolar ; ²Mahdi Ghahremani; ³Bahman Mirzaei

¹University of Hormozgan

²Ferdowsi University of Mashhad

³University of Guilan

Abstract

Introduction: Reducing the clearance of creatinine levels could be an indicator of protein catabolism, which due to the reduction of anabolic hormones such as growth or insufficient strength activity in the elderly.

Methodology: The aim of this study was to compare the level of blood creatinine in untrained and competitive trained elderly men in response to resistance training and melatonin supplements (training group, number:8, age: 59.75±1.98 yrs, height: 172.25±7.08 cm, weight: 76±14.6 kg and untrained group, number: 7, age: 61.42±1.9 yrs, height: 173.14±4.09 cm, weight: 71.79± 8.15 kg) who volunteered to participate in this research. The subjects performed two resistance exercises including: The chest press, knee extension, lat pull, knee flexion, elbow flexion and extension and ankle plantar flexion that performed 60 to 70 percent of a repetition maximum (1RM) with 8 to 12 repetitions in 4 days intervals. To measure creatinine, blood samples were collected before, immediately and 24 hours after the first resistance activity, then 4 days rest and re-blood sampling before, after and 24 hours after the resistance activity and melatonin supplementation. Data were analyzed and compared using ANOVA with Repeated measure and Tukey's post hoc test. Independent sample t-test was used for comparison between trained and untrained groups ($p < 0.05$).

Results: The results showed that creatinine level increased significantly after training in the untrained group than before and 24 hours after training. These values were not significant in competitive trained group. Also, the untrained group had significantly more creatinine after training.

Discussion: These findings demonstrate the positive role of physical activity. Due to the higher level of fitness and less catabolism, resistance activity in the elderly leads to a lower increase in creatinine.

Keywords

Resistance training; Melatonin Supplement; Creatinine; Elderly

Subjects

Exercise Physiology and Nutrition