



Aged Garlic (AGE) Supplementation Improves Muscle Performance Properties and Up-Regulated Heat Shock Protein 27 (HSP27)

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Editorial

Aged garlic extract (AGE) is a dietary supplement and is reported have numerous health benefits including protection against oxidative stress, inflammatory, and dyslipidemia. Recently, aged garlic extract (AGE) has been promoted as a nutritional supplementation against fatigue. However, the effects of AGE on muscle strength contraction properties have not been clearly defined in humans. We have investigated the anti-fatigue role of AGE in isokinetic muscle contraction properties in sedentary men. Participants were tested during the isokinetic concentric/concentric protocol involving 6 maximal repetitions at the 60 and 180 degrees/sec on dominant knee for extensor and flexor muscles. Subsequently, the concentric muscle fatigue test with 30 maximal repetitions at 180°/sec was performed.

After baseline test, the subjects were supplemented daily with AGE (5 ml) for 10 days. The performance test parameters and serum HSP27 level were evaluated at baseline, after 10 days of post-supplementation and 10 days after the end of the study. AGE increased the extensor and flexor muscle function of the peak work, peak work/ body weight, average and total work in the post-supplementation period. Flexor peak torque, peak power, average power values were increased in the post-supplementation whereas no effect was observed on the extensor functions regarding these parameters. Furthermore, AGE was increased the HSP27 level in the post-supplementation period. Therefore, AGE supplementation enhanced isokinetic knee muscle work parameters and it may be played a protective role against the oxidative stress and apoptosis with up regulated the level of HSP27 in this study.