Effect of Anserine Supplement on Anaerobic Performance

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Abstract

Introduction: Anserine has been reported to have antioxidant activity and pH buffering ability. However, human skeletal muscle does not have anserine, thus the purpose of this study is to investigate the effect of acute anserine supplementation on anaerobic performance.

Methods: Twenty volunteers (age : 20 ± 0.4 years old) were recruited in this double-blind designed, crossover study. Participants were randomly assigned into Placebo (P), Low-dosage (L, 15 mg/kg) and High-dosage (H, 30 mg/kg) trials. The 60 second Wingate Anaerobic Test (WAnT) was conducted to measure anaerobic performance after 1 hour anserine supplemented. Plasma lactate was measured at baseline before anserine supplementation, 1 h after anserine supplemented, immediately after WAnT challenge, and 15 minutes after exercise.

Results: The anaerobic power was significant increase in the H trial, compared with the P tiral ($p < 0.05$). There was no difference between L trial and P trial in anerobic power. The anaerobic capacity was significant increase in H trial, compared with P and L trials ($p < 0.05$). There was no significant difference among the three trials in fatigue index. And there was no difference in lactate concentration during WAnT challenge.

Conclusions: High-dose anserine supplementation (30 mg/kg) enhanced anaerobic power and anaerobic capacity indicanting that anseine may have ergogeinc aid in anaerobic performance.

Keywords: Carnosine, Power, Lactate