TACSM Abstract

Effect of Two Week L-Arginine Supplementation on Variables Related to Endurance and Strength Performance in Collegiate Football Players

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ABSTRACT

BACKGROUND: It has been shown that a month-long supplementation period of L-arginine, coupled with exercise training, increases exercise performance more than either supplementation or exercise alone (Hambrecht et al., 2000). PURPOSE: The purpose of this study was to examine the effects of a shorter 2 wk L-arginine supplementation period on factors related to endurance and strength performance. METHODS: Twelve collegiate football players volunteered to participate in this study. The control group (n = 6) and treatment group (n = 6) both participated in the same off-season training program that consisted of strength training 3 d/wk and agility training 2 d/wk. In addition, the treatment group received 1g of L-arginine twice daily, whereas the control group received a placebo twice daily. At the beginning of the study, participants performed a baseline bench press maximum repetitions test at 70% of their most recently recorded bench press 1 RM (MMR). The participants also performed a graded exercise test (GXT) on a cycle ergometer to volitional exhaustion. Following baseline testing, participants immediately began the supplementation period, and were retested in the MMR and the GXT after 2 wk of supplementation. The effect of supplementation on each dependent variable was determined using ANCOVA with pretests serving as the covariates. RESULTS: ANCOVA did not reveal significant effects of L-arginine supplementation on MMR ($F_{(1,9)} = 1.71$, $p = 0.22$), VO_2max ($F_{(1,9)} = 1.08$, $p = 0.33$), time to exhaustion in the GXT ($F_{(1,9)} = 0.19$, $p = 0.67$) , or HRmax during the GXT ($F_{(1,9)} = 4.79$, $p = 0.06$). CONCLUSION: A 2 wk supplementation period coupled with training may not be of sufficient length to improve factors related to endurance and strength performance in trained college-aged men.