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Effect of Glucose and NH₃ on Acute Anaerobic Load

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Abstract

Purpose: To investigate the effects of different acute muscle contraction load on glucose and blood ammonia (NH₃). **Methods:** 7 male physical education students (age 23 ± 1.5 years; frequency of exercise 3-4 d/wk) completed both unarmed strength endurance and row load by 24 hour separated in random order. Blood glucose and ammonia were drawn before and after load. **Results:** The glucose concentrations of unarmed strength endurance and rowing ergometer load did not reach statistical significant difference ($p > 0.05$). After exercise, the NH₃ were significant greater with unarmed strength relative to row exercise load (end of exercise, E1: 85 ± 17 vs. 63.63 ± 11.72; E5: 101.1 ± 27.1 vs. 65.38 ± 23.63; E10: 89.2 ± 32.3 vs. 49.88 ± 14.41 μmol/l). **Conclusion:** The unarmed strength exercise show higher NH₃ accumulation may due to its movement type have more resistance load, for this reason, the exercise prompts more protein as fuel sources. These results suggest that the unarmed strength exercise may result in higher stress quickly, and it could be a way for anaerobic training after specific drill.

Key words: strength endurance, protein, specific training