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Resumo	Concurrent exercise (CE) combines resistance exercise (RE) and high-intensity interval exercise (HIIE) in the same training routine, eliciting hypertrophy, strength, and cardiovascular benefits over time. Some studies suggest that CE training may hamper muscle hypertrophy and strength adaptations compared with RE training alone. However, the underlying mechanisms related to protein breakdown are not well understood. The purpose of this study was to examine how a bout of RE, HIIE, or CE affected ubiquitin-proteasome and calpain activity and the expression of a few associated genes, markers of skeletal muscle proteolysis. Nine untrained male subjects completed 1 bout of RE (4 sets of 8-12 reps), HIIE (12 × 1 minute sprints at V o2 peak minimum velocity), and CE (RE followed by HIIE), in a crossover design, separated by 1-week washout periods. Muscle biopsies were obtained from the vastus lateralis before (Pre), immediately post, 4 hours (4 hours), and 8 hours (8 hours) after exercise. FBXO32 mRNA expression increased immediately after exercise (main time effect; $p < 0.05$), and RE and CE presented significant overall values compared with HIIE ($p < 0.05$). There was a marginal time effect for calpain-2 mRNA expression ($p < 0.05$), with no differences between time points ($p > 0.05$). No significant changes occurred in TRIM63/MuRF-1 and FOXO3 mRNA expression, or 20S proteasome or calpain activities ($p > 0.05$). In conclusion, our findings suggest that 1 bout of CE does not promote greater changes in markers of skeletal muscle proteolysis compared with 1 bout of RE or HIIE.
Fomento	