CARDIOVASCULAR RESPONSE TO DIFFERENT HIGH-VELOCITY RESISTANCE EXERCISE PROTOCOLS IN OLDER WOMEN

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Bottaro et al. (2007) demonstrated that a high-velocity power resistance training program can be performed safely in older men and appears to be more effective in improving muscular power, and more importantly, functional performance, compared with a low-velocity traditional resistance training program. However, little is known about the acute cardiovascular response to high-velocity resistance exercise protocols in an elderly population. PURPOSE: This study compared measures of acute cardiovascular response to different high-velocity resistance exercise protocols in untrained older women. METHODS: Twelve apparently healthy volunteers (63; SD=3 yrs) performed 3 upper and lower body (bench & leg press) resistance exercise protocols in a random order. Each protocol involved 3X10 rep sets at a 10 repetition maximum load (3 sets of 10 continuous reps; 3 sets of 10 discontinuous reps (with a 5 second rest interval included after the fifth rep); 3 sets of 10 discontinuous reps (with a 15 second rest interval included after the fifth rep). Heart rate (HR), systolic blood pressure (SBP) and double product (DP) were assessed immediately after every exercise set. ANOVA was used to compare the cardiovascular response measures across the different protocols. RESULTS: Compared to baseline, HR and DP were significantly (p < 0.05) higher after the third set of both upper and lower body exercise in of all the protocols. HR and DP were significantly (p < 0.05) lower in the two discontinuous rep protocols compared with the continuous rep protocol for upper body exercise. However, HR and DP were significantly (p < 0.05) lower only in the discontinuous (5 second rest) protocol for lower body exercise. CONCLUSION: It appears that discontinuous high-velocity resistance exercise, otherwise known as power training, may have a lower cardiovascular demand than continuous resistance exercise in older women. These findings may help exercise scientists to prescribe high velocity resistance exercise in a safety manner. Also, help encourage long term adherence to power training in the elderly population.

REFERENCES
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