Impact of two different resistive exercise methods on post-exercise lymphocytes plasma levels #22

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Resistive exercise (RE) may induce muscle damage and acute inflammatory response. A single bout of intense resistive exercise may induce transient immunosuppressive effect. However, the manner that the immune system will be challenged depends in great part of the characteristic of the training session. The aim of this investigation was to determine the effect of two different RE methods on acute lymphocytes plasma levels. Young adult men (n= 10, 26.1±6.3 years old; 174.0±5.4 cm height; 76.4±13.3 kg weight; 15.48±5,42 % body fat) with no previous experience in RE were divided into two groups and both performed an exercise session in two different intensities determined by one maximum repetition (1MR) tests with one week interval between them. The training sessions consisted in tree consecutive exercises for the same muscle group (bench press, incline bench press and peck deck); the variable intensity (VI) session consisted of 3 sets for each exercise performed at 67%, 75% and 80% of 1MR while the constant intensity (CI) group performed 3 sets for each exercise at 75% of 1MR. Blood samples were obtained from an antecubital vein at rest and immediately after the exercise sessions. Lymphocytes were analyzed by dual-labeled flow cytometry. There was a significant decrease in lymphocytes post-exercise compared with pre values, only for the VI group (table 1).

Table 1. Lymphocytes plasma levels before and immediately after constant intensity and variable intensity resistance exercise sessions.

	Constant intensity (n = 10)		**Variable intensity (n = 10)**	
	PRE (X±SD)	**POST (X±SD)**	**PRE(X±SD)**	**POST (X±SD)**
Lymphocytes	3199.4 ± 1218.0	2917.3 ± 1294.3	3809.1 ± 789.4	2843.8 ± 408.9*

* Significant difference between pre and post (p<0.05). X = mean; SD = standard deviation of the mean.

Variable intensity method is more stressful to immune system. The variable intensity method should be performed for shorter periods of time.

Key words: Resistance exercise; lymphocytes; variable intensity method.