ASSOCIATION BETWEEN VO2MAX, REST ENERGY EXPENDITURE AND CORONARY RISK FACTORS IN MILITARY BRAZILIAN MALES

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Several studies have shown that the maximum oxygen uptake (VO2max) may be related to mortality decrease and may be strongly, gradually and contrariwise related to general mortality, as well as to some coronary disease predictors, such as cholesterol and C-reactive protein. Anthropometric measurements are indicated by World Health Organization like as predictor of several ills, like as coronary disease and dyslipidemia. Resting energy expenditure (REE) was associated with obesity and overweight and these abnormalities were associated with metabolic alterations and increase of coronary risk. Purpose: To investigate the association between REE and VO2max with coronary risk in Brazilian military males. Methods: Thirteen militaries aged (37.9±8.7 year), weight (89.2±9.5 kg), height (173.7±6.1 cm) and BMI (29.4±3.3 kg.m-2), underwent biochemical exams to assess seric levels of total cholesterol (TC), C-reactive protein and Lipoprotein(a), after 12-hours fasting. The resting energy expenditure was evaluated by ergoespirometry, (1214.0±214.91 Kcal) and the VO2max assessment based on the 12 minues’ Cooper Test was (45.0±8.7 ml.kg-1.min-1). Spearman’s correlation analysis was used to examine the association between the variables. The significance level was set at p<0.05. Results: In our results there was a significant inverse correlation between VO2max and seric levels of C-reactive protein (CRP) (r=-0.71,p=0.0098). There was a significant inverse correlation between REE and levels of C-reactive protein (CRP) (r=-0.52;p=0.048) and cholesterol total (-0.59; p=0.046). Conclusion: The REE and VO2max are associated with coronary disease risk and alterations in seric levels of cholesterol and can be used with coronary risk predictors. We suggest that increase in VO2max levels and REE values must be aimed to health prevention.

Keywords: Cardiovascular, Metabolism, Risk