

Emotional and oxidative changes in stress produced by short term and heavy physical effort

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Abstract

Background. A short duration and intense exercise constitutes a type of stress, especially for sedentary individuals.

Aims. The objective of this study was to reveal dynamic changes comparatively, in stress, caused by intense and short duration exercise, for two parameters, in physically sedentary persons.

Methods. The present study is one of orientation. Subjects chosen were selected to match the requirements of the study. The stress was represented by a short duration and intense exercise, made with a cicloergometru Monark 839e Ergomedic. The parameters analyzed were anxiety and malondialdehyde measured by specific methods. Evaluative statistics were based on Student t test.

Results. Anxiety presented the most intense significant increase, immediately in the pre-exercise period. Malondialdehyde increased significantly immediately post-stress compared to the pre-stress time.

Conclusions. 1) A short and intense athletic stress, has in previously sedentary persons, an important impact on anxiety and malondialdehyde. 2) There were differences of the dynamic evolution between anxiety and malondialdehyde. 3) Anxiety variations have shown that in this type of stress, emotional changes are anticipatory. 4) The malondialdehyde dynamic changes, as evidenced by this study, show that changes in oxidative stress induced by the analyzed exercise, are more intense post-stress. 5) The results obtained in this study are consistent with the latest bibliographic data of the stress caused by exercise. 6) The two studied parameters could be considered important markers of the stress caused by intense and short duration exercise, for sedentary persons.

Keywords: stress, short and intense exercise, anxiety, malondialdehyde