EFFECTS OF OVERLOAD TRAINING ON MYOCARDIAL STRESS

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ABSTRACT

Regular aerobic physical exercises help to prevent and to control cardiovascular risk factors. However, it is questionable whether all training programs are really safe with respect to cardiac function. The present paper has assessed the effect of different type of training programs on myocardial oxidative stress. 18 Male Wistar rats were randomly divided into three groups: sedentary-control group (T0), load less trained group (T1) and trained overload (T2). Animals in T1 and T2 groups received nine weeks of training (treadmill running) at a constant speed of 15 m/min during the first week, no incline, and 35 minutes per session. Increasing the training intensity was obtained by increasing Ergometric treadmill speed to 5m each week and for the T2 group. For the T1 group, they kept their initial training speed of 15m/min. After this training program, all animals were sacrificed by decapitation. The heart was removed and the left ventricle was prepared for biochemical analysis. Lipoperoxide (TBA), Lipid hydroperoxide (HP), glutathione peroxidase (GSH-Px) and superoxide dismutase (SOD) level were measured. TBA has significantly increased in load less trained group and in overload trained group. HP has also significantly increased when we compare our results of load less trained animals and overload animals to sedentary control animals. SOD and GSH-Px were significantly low in overload trained group.