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跑台运动训练对大鼠脑组织抗氧化能力的影响 点此下载全文

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摘要：

摘要目的：建立大鼠跑台运动模型，观察不同训练负荷对大鼠脑组织总抗氧化能力（T-AOC），过氧化氢酶（CAT），羟自由基（OH·）的影响。方法：建立有氧、无氧、有氧和无氧交替运动大鼠跑台运动训练模型，有氧运动时采用递增负荷训练，无氧运动时采用高速间歇训练，并设立正常对照组。各组大鼠训练结束后用机器匀浆法提取大鼠脑组织匀浆介质，紫外分光光度计检测大鼠脑组织T-AOC，CAT活性和OH·抑制能力。结果：有氧组大鼠OH·抑制能力要低于其他各组（P<0.05），但训练6周后，和其他组相比差异无显著性意义；交替组大鼠脑组织CAT活性要高于其他三组（P<0.05），而无氧组偏低（P<0.01）；有氧运动组大鼠脑组织T-AOC要高于正常对照组（P<0.01）。结论：有氧运动的氧化损伤要强于其他各组，但是随着训练时间的延长，其抗氧化能力也随之加强。长期坚持适度的有氧运动将有利于机体提升抗氧化损伤的能力。

关键词：跑台运动 脑组织 总抗氧化能力 过氧化氢酶 羟自由基

Effect of treadmill exercises on antioxidant capacity in the brain of rats Download Fulltext

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Abstract:

Abstract Objective: To establish a rat treadmill exercises model and to investigate the activity changes of total antioxidant capacity (T-AOC), catalase (CAT) and hydroxyl free radical（OH·） in rat brain after treadmill exercises training of different intensity. Method: Eighty male SD rats were randomly divided into four groups: normal control group, aerobic exercises group (incremental load exercise), anaerobic exercises group (high-speed intermittent training) and alterntive-training group aerobic and anaerobic alternative training. The activity of T-AOC, CAT and the inhibition ability of OH· were measured after every training period. Result: The inhibition ability of OH· of rat brain in aerobic exercise group was lower than that in the other groups （P<0.05）. However, after six-week training, there was no significant difference between four groups. Activity of CAT rat brain in alternative-training group was higher than that in the other three groups （P<0.05）, and it was low in anaerobic group （P<0.01）. The T-AOC of rat brain in aerobic exercise group was higher compared with normal control group （P<0.01）. Conclusion: Oxidative damages of aerobic exercise were heavier than the other groups. But with the extension of training period, the antioxidant capacity increased. It suggested that after moderate aerobic exercises for a long term organism's antioxidant activity would be enhanced.

Keywords: treadmill exercise brain tissue total antioxidant capacity catalase hydroxyl free radical

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