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艾灸足三里穴、关元穴对小鼠运动耐力及肾脏组织抗氧化损伤的影响 [点此下载全文](#)

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摘要:

**摘要目的:** 通过建立长期递增负荷训练、力竭训练游泳运动模型, 探讨艾灸足三里穴、关元穴对长期训练小鼠运动耐力、血液生化指标及肾脏自由基代谢的影响。方法: 实验小鼠30只, 随机分为安静对照组(10只)、运动训练组(10只)、运动+艾灸组(10只)。测定运动训练组、运动+艾灸组小鼠力竭游泳时间, 各组小鼠血红蛋白(Hb)、全血乳酸(Bla)、血清肌酸激酶(CK)、血清尿素氮(BUN)、肾脏组织丙二醛(MDA)、谷胱甘肽过氧化物酶(GSH-Px)、超氧化物歧化酶(SOD)。结果: 运动+艾灸组力竭运动时间显著延长; 运动训练组力竭时与安静对照组相比, 血浆Hb显著降低( $P<0.05$ ), Bla显著升高( $P<0.05$ ), 血清CK、BUN显著升高( $P<0.05$ ), 肾脏组织MDA含量显著升高( $P<0.05$ ), GSH-Px活性、SOD活性均显著降低( $P<0.05$ ); 运动训练组力竭时与运动+艾灸组力竭时相比, 血浆Hb显著升高( $P<0.05$ ), Bla显著降低( $P<0.05$ ), 血清CK、BUN显著降低( $P<0.05$ ), 肾脏组织MDA含量显著降低( $P<0.05$ ), GSH-Px活性、SOD活性均显著升高( $P<0.05$ ); 运动+艾灸组力竭时与安静对照组相比, 血浆Hb含量略高, 但无显著差异( $P>0.05$ ), 血浆Bla显著升高( $P<0.05$ ), 血清CK、BUN显著升高( $P<0.05$ ), 肾脏组织MDA含量略高, GSH-Px活性略低, 但差异无显著性( $P>0.05$ ), SOD活性显著降低( $P<0.05$ )。结论: 艾灸足三里、关元穴可提高了机体的造血功能和循环系统功能, 促进了机体Hb的再生与合成, 减少体内Bla堆积, 抑制肌细胞中CK溢出, 降低血清中BUN含量, 明显加快肾脏组织中自由基的清除, 从而提高机体抗疲劳能力, 增强机体的运动能力。

关键词: [艾灸](#) [足三里穴](#) [关元穴](#) [运动耐力](#) [肾脏](#) [自由基](#)

Effects of applying moxibustion at Zusanli and Guanyuan acupoints on rats' exercise endurance and anti-oxidant injury of kidney tissue [Download Fulltext](#)

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Fund Project:

Abstract:

**Abstract Objective:** To discuss the effects of applying moxibustion at zusanli (ST36) and guanyuan (RN4) acupoints on exercise endurance, blood biochemical indices, and free radicals metabolism of kidney tissue on the basis of establishing long-term incremental treadmill exercise and exhaustive swimming trainings rats models. Method: A total of 30 rats in this experiment were randomly divided into sedentary control group (n=10), training group (n=10), training plus moxibustion group (n=10). And then the exhaustive swimming time were measured in training group and training plus moxibustion group, to obtain those indices of hemoglobin(Hb), blood lactate(Bla), serum creatine kinase(CK), serum blood urea nitrogen(BUN), kidney malondialdehyde(MDA), glutathione peroxidase(GSH-Px) and superoxide dismutase(SOD). Result: In training plus moxibustion group the exhaustive swimming time extended obviously; compared with sedentary control group in normal training group, plasma Hb decreased significantly( $P<0.05$ ), plasma Bla, serum CK, serum BUN, MDA increased significantly( $P<0.05$ ), activities of GSH-Px and SOD decreased significantly( $P<0.05$ ); compared with training group in training plus moxibustion group, plasma Hb increased obviously( $P<0.05$ ), plasma Bla, serum CK, serum BUN decreased obviously( $P<0.05$ ), the content of MDA decreased significantly( $P<0.05$ ), the activities of GSH-Px and SOD increased significantly( $P<0.05$ ); compared with sedentary control group in training plus moxibustion group, the plasma Hb increased relatively, but without significant difference( $P>0.05$ ), plasma Bla increased significantly( $P<0.05$ ), serum CK, serum BUN increased significantly( $P<0.05$ ), the content of MDA increased relatively and GSH-Px was lower, but without significant difference( $P<0.05$ ), activity of SOD increased significantly( $P<0.05$ ). Conclusion: Moxibustion at zusanli (ST36) and guanyuan (RN4) acupoints can enhance organism hematopoietic function and circulatory system function, promote the regeneration and synthesis of Hb in organism, reduce Bla accumulation, inhibit CK overflowed in muscle cells, decreased serum BUN content and speed up the removal of free radicals in kidney tissue significantly, thereby strengthen the body's resistance to fatigue and enhance the exercise endurance of organism.

Keywords: [moxibustion](#) [zusanli \(ST36\)](#) [guanyuan \(RN4\)](#) [exercise endurance](#) [kidney](#) [radicals](#)

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