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间歇运动训练对缺血再灌注损伤大鼠心脏的保护作用 [点此下载全文](#)

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摘要:

目的: 探讨间歇运动抗心脏缺血再灌注(I/R)损伤的保护作用。方法: 32只大鼠随机分成4组: 间歇运动训练组、一次间歇运动组、对照组和假手术组, 缺血再灌注模型制备前, 间歇运动训练组进行高强度间歇运动训练, 一次间歇运动组仅进行一次高强度的间歇运动, 对照组不运动。采用结扎大鼠左冠状动脉方法制备在体大鼠心肌缺血再灌注损伤模型, 实时监控心电图和左心室收缩功能并进行分析。缺血30min、再灌注40min后检测血清肌酶含量, 取心肌组织进行病理切片分析。结果: ①经间歇运动训练和一次间歇运动预处理的大鼠心肌损伤比对照组轻, 间歇运动训练组更为明显; ②经间歇运动训练和一次间歇运动预处理的大鼠, 血清CK和LDH明显低于对照组, 且间歇运动训练组的GOT明显低于对照组; ③经间歇运动训练和一次间歇运动预处理的大鼠在缺血30min和再灌注40min时心脏功能明显高于对照组。结论: 长期高强度间歇运动训练及短时间高强度间歇运动都具有预处理效应, 能对缺血再灌注大鼠心肌产生保护作用。

关键词: [间歇运动](#) [缺血再灌注损伤](#) [心脏保护作用](#)

The cardioprotective effect of intermittent exercises on ischemia-reperfusion rats' myocardium [Download Fulltext](#)

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Fund Project:

Abstract:

Objective: To explore the cardioprotective effect of chronic and acute intermittent exercises training on myocardial ischemia reperfusion injury. Method: Thirty-two rats were used and randomly divided into four groups: chronic intermittent exercises training group(CIE, n=8), acute intermittent exercises group(AIE, n=8), control group (C, n=8) and sham operated group(S, n=8). The rats in CIE performed high intensity intermittent training for 8 weeks, the rats in AIE performed high intensity intermittent training only one time. The others had not any exercises training. Myocardial ischemia reperfusion injury was induced by the occlusion of left anterior descending branch of coronary artery in vivo. Electrocardiogram and left ventricular function were real-time monitored and analysed. After 30min ischemia and 40min reperfusion, activity of myocardial enzymes in plasma was observed and myocardial pathological changes was analysed. Result: ①Extents of myocardial injury in CIE and AIE were less than that in control group, especially in CIE. ②In CIE and AIE, activities of CK and LDH were remarkably lower than that in control group; and activities of GOT in AIE were remarkably less than that in control group. ③At the duration of ischemia 30min and reperfusion 40min the rats' cardiac function in CIE and AIE was significant higher than that in control. Conclusion: Both chronic and acute high intensity intermittent exercises training can induce preconditioning effect and effectively protect myocardium from ischemia-reperfusion injury.

Keywords: [intermittent exercises](#) [ischemia reperfusion injury](#) [cardioprotective effect](#)

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