

论著

大鼠心肌多巴胺受体在缺氧-复氧时的表达变化及其意义

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摘要 目的: 观察大鼠心肌多巴胺受体在缺氧-复氧时的表达, 初步探讨其与心肌缺氧-复氧损伤的关系。方法: 采用Langendorff离体灌流装置复制大鼠心肌缺氧-复氧模型。用RT-PCR和Western blotting结合图像分析系统, 分别检测缺氧-复氧心肌多巴胺受体DR1、DR2 mRNA和蛋白质的表达变化; 用紫外分光光度计测定大鼠冠脉流出液中LDH活性; 透射电镜观察心肌超微结构的变化。结果: 大鼠心肌组织在缺氧40 min时的DR1、DR2 mRNA和蛋白表达高于正常对照组(P<0.05), 缺氧40 min后复氧1h显著高于正常对照组(P<0.01), 2 h达高峰, 3 h、4 h后降低, 但仍高于正常组(P<0.01); 同时随复氧时间延长, 冠脉流出液中LDH活性增加, 心肌超微结构损伤加重。结论: 大鼠心肌多巴胺受体DR1、DR2表达在缺氧-复氧过程中呈先升高后降低的特点, 可能与心肌缺氧-复氧损伤的发生。

关键词 [受体,多巴胺](#) [缺氧](#) [多巴胺](#) [心肌](#)

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Expression of dopamine receptor in rat anoxia-reoxygenation injured cardiac tissue

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Abstract

AIM: To investigate the expression of dopamine receptor (DR) in rat cardiac tissue and the relationship with the anoxia-reoxygenation injury (ARI).
METHODS: The rat cardiac ARI model in vitro was rebuilt on Langendorf device. RT-PCR and Western blotting were used to detect the mRNA and protein expression of DR1 and DR2. The activity of LDH in coronary effluent volume was assayed with ultraviolet spectrophotometer. The ultrastructure of cardiac tissue was determined by transmission electron microscope.
RESULTS: The mRNA and protein expressions of DR1 and DR2 in rat cardiac tissue increased at anoxia 40 min (P<0.05), markedly increased at reperfusion 1 h (P<0.01), reached the highest level at 2 h, but lightly decreased at 3 h and 4 h. The activity of LDH increased and the myocardial ultrastructure injured seriously after reperfusion.
CONCLUSION: The expressions of DR1 and DR2 in rat cardiac tissue increased firstly then decreased during anoxia-reoxygenation processes. The two kinds of receptors may take part in the cardiac anoxia-reoxygenation injury.

Key words [Receptors](#) [dopamine](#) [Anoxia](#) [Dopamine](#) [Myocardium](#)

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