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论著

11，12-EET的延迟性心脏保护作用与磷酸化ERK1/2的关系

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摘要 目的:观察11，12-EET延迟性保护作用对缺血再灌注大鼠心肌ERK活性及磷酸化ERK表达的影响，探讨其在11，12-EET延迟性保护中的作用。 方法:复制大鼠心肌缺血/再灌注模型；观察缺血/再灌注期间心脏收缩期左心室内压上升的最大变化速率（+dp/dt max）及舒张期左心室内压下降的最大变化速率（-dp/dt max）；采用免疫共沉淀法测定大鼠心肌组织中细胞外调节激酶（ERK）的活性，采用Western blotting法测定大鼠心肌组织中磷酸化ERK的表达。 结果:I/R组缺血60 min及再灌注30 min两个时段±dp/dt max均低于sham组（P<0.05），24 hEET+I/R组缺血60 min及再灌注30 min两个时段±dp/dt max明显高于I/R组（P<0.05），而24hEET+PD+I/R组缺血60 min及再灌注30 min两个时段±dp/dt max明显低于24hEET+I/R组（P<0.05）。ERK的活性24hEET+I/R高于normal组，24hEET+I/R组低于24hEET+PD+I/R组。磷酸化ERK的表达I/R组高于normal组和sham组，24hEET+I/R高于I/R组，24 hEET+I/R组低于24hEET+PD+I/R组。 结论:外源性11，12-EET具有延迟性心脏保护作用，大量激活磷酸化的ERK参与这种保护作用。

关键词 心肌 再灌注损伤 有丝分裂素激活蛋白激酶类 环氧-二十碳三烯酸

分类号 R541.4

Relationship between delayed cardioprotection effect of 11,12-EET and phosphorylated ERK during ischemia and reperfusion in the rat myocardium

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Abstract

<FONT face=Verdana>AIM:In order to study the relationship of the activation of ERK and delayed cardioprotection of 11,12-EET .
METHODS:A rat ischemia/reperfusion (I/R) model was replicated by ligating left anterior descending coronary artery 30 min followed by 60 min. The expression of ERK was detected with Western blotting, and the change of heart function during reperfusion was observed.
RESULTS:The difference of myocardial function was prominent at 24 h in I/R group compared with sham group, EET+I/R and EET+PD098059+I/R group. The activity of ERK at 24 h in EET+I/R group was higher than sham group, and the activity of ERK in EET+PD098059+I/R group was lower than that in EET+I/R group;the expression of phosphorylated ERK1/ERK2 at 24 h in EET+I/R group was more than that in I/R group, and the expression of phosphorylated ERK1/ERK2 in EET+PD098059+I/R group was less than EET+I/R group.
CONCLUSION:11, 12-EET has a delayed cardioprotection effect, and this protection effect is involved in the activity of ERK and expression of phosphorylated ERK1/ERK2. </FONT>

Key words Myocardium Reperfusion injury Mitogen-activated protein kinases Epoxyeicosatrienoic acids

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