

论著

丝裂原活化蛋白激酶p38的激活在四逆汤预处理诱导大鼠心肌延迟预适应中的作用

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摘要 目的: 探讨四逆汤能否诱导心肌延迟预适应及其机制。方法: SD大鼠分为正常对照组、假手术组、缺血再灌注(I/R)组、延迟缺血预处理组、四逆汤预处理组。延迟缺血预处理组采用经典大鼠冠脉结扎, 缺血5 min, 再灌5 min, 反复循环3次, 24 h后缺血1 h, 再灌1 h。四逆汤预处理组给予四逆汤灌胃(5 mL·kg⁻¹·d⁻¹)连续3 d, 末次灌药24 h后缺血1 h, 再灌1 h。以心肌梗死面积、心肌酶为评价指标, 测定心肌中NO₂-/NO₃-的含量并通过免疫组化检测大鼠心肌p38 MAPK及PKC的表达。结果: 延迟缺血预处理组及四逆汤预处理组心肌梗死面积、血清CK、LDH的值明显少于I/R组, NO₂-/NO₃-含量显著高于I/R组, p38 MAPK和PKC发生转位且蛋白表达明显高于I/R组。结论: 四逆汤能诱导心肌延迟预适应, 其机制与p38 MAPK的激活可能有关。

关键词 [四逆汤](#); [蛋白激酶C](#); [一氧化氮](#); [有丝分裂素激活蛋白激酶类](#)

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Pretreatment with Sini decoction induces delayed preconditioning in rat heart and role of p38 MAP kinase

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Abstract

AIM: The present study was designed to determine whether Sini decoction (SND), a traditional Chinese medicine, induces delayed preconditioning-like effect in rat heart and the possible mechanism by which ischemia myocardium is protected. METHODS: Sprage-Dawley rats underwent three 5 min episodes of preconditioning ischemia 24 h prior to the global ischemia and reperfusion in ischemic preconditioning/second window of protection (IPC/SWOP) group or were pretreated with Sini decoction (5 mL·kg⁻¹·d⁻¹ for 3 days, the last treatment 24 h before global ischemia and reperfusion) in SND group. Myocardial infarct size, CK, LDH and NO were examined. p38 MAPK and PKC were determined by immunohistochemistry. RESULTS: Myocardial infarct size was significantly decreased, CK and LDH were decreased in the serum, NO₂-/NO₃- was increased in myocardial tissue in SND group as well as in IPC/SWOP group (there was no difference between the two groups). The expression of p38 MAPK and PKC were upregulated in myocardial tissue in SND and IPC/SWOP groups. CONCLUSION: These results suggest that Sini decoction induces delayed preconditioning-like effect in the rat heart, possibly via inducing p38 MAPK activation.

Key words [Sini decoction](#) [Protein kinase C](#) [Nitric oxide](#) [Mitogen-activated protein kinases](#)

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