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论文

## 替普瑞酮对中暑大鼠多器官功能损伤保护作用

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摘要:

目的 观察替普瑞酮对中暑大鼠保护作用并探讨其机制。方法 选择清洁级Wistar大鼠50只,随机分为5组,分别为常温对照组、中暑模型组和替普瑞酮低、中、高剂量组,将模型组和替普瑞酮组大鼠持续暴露于43℃热舱中,持续70 min,中暑后迅速取出,采血,检测大鼠血清肌酐(CR)、血清尿素氮(SUN)、谷草转氨酶(AST)、谷丙转氨酶(ALT)水平,常规苏木素-伊红染色,观察肺组织病理改变。结果 中暑模型组大鼠CR、SUN、AST及ALT水平分别为(64.89±1.55)μmol/L、(8.11±0.63)mmol/L、(162.84±7.52)U/L、(62.51±3.39)U/L,明显高于常温对照组;与中暑模型组比较,高剂量替普瑞酮预处理后CR、SUN、AST及ALT水平分别降至(47.96±1.97)μmol/L、(5.16±0.34)mmol/L、(130.63±5.53)U/L、(43.76±1.76)U/L,替普瑞酮预处理组肺组织病理改变有不同程度减轻。结论 替普瑞酮能减轻中暑大鼠多器官功能损害。

关键词: 热 热应激 中暑 替普瑞酮

## Potective effect of geranylgeranylacetone on multiple organ injury in heatstroke rats

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Abstract:

Objective To examine whether geranylgeranylacetone(GGA)could attenuate heat-induced multiple organ dysfunction in rats.Methods Fifty female anesthetized Wistar rats of clean degree were randomly divided into normothermic control group(NT, n=10),heatstroke model group(HS, n=10),lowdose GGA group(GGA1, n=10), moderate dose GGA group(GGA2, n=10),and high dose GGA group(GGA3, n=10).The model and GGA groups were orally administered vehicle(arabic gum)or GGA of 50 mg/kg,100 mg/kg, and 200 mg/kg,respectively,followed by the exposure to heat(43℃ for 70 min)before recovery at room temperature(RT,24℃).The normal control group rats were treated with vehicle and were kept at RT.A DKB-501S high precision water bath and circulation chamber of water were used to establish heatstroke model.The environment temperature was kept at 22-24℃ and the water temperature was kept at 45.0℃ for more than one hour, and then the temperature in the chamber was kept at 43.0℃.Results Compared with normothermic controls,all vehicle-treated heatstroke rats displayed hepatic and renal dysfunction,including increased levels of serum urea nitrogen,creatinine,aspartate aminotransferase, and alanine aminotransferase.The heat-stress response indicators were all significantly suppressed by GGA pretreatment.The pathological changes of lungs in heatstroke rats were also attenuated by GGA pretreatment.Conclusion GGA preconditioning attenuates heat-induced multiple organ injury in rats.

Keywords: heat heat stress heatstroke geranylgeranylacetone

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