中国药理学与毒理学杂志 2008 22 (4): 284-290 ISSN: 1000-3002 CN: 11-1115/R

论著

大蒜素对可卡因致小鼠急性肝损伤的防治作用

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收稿日期 2007-12-4 修回日期 网络版发布日期 2008-7-30 接受日期 2008-4-15

摘要 目的 探讨大蒜素对可卡因所致急性肝损伤的防治作用。方法 采用可卡因致小鼠急性肝损伤模型, 分别预防性和治疗性给予大蒜素。预防性给药时，分别给小鼠ip大蒜素7.5，15和30 mg·kg^{-1}，每天1次，共4 d，d 4给大蒜素30 min后sc可卡因 75 mg·kg^{-1}制备急性肝损伤模型；治疗性给药时，在sc可卡因75 mg·kg^{-1} 30 min后分别一次性ip大蒜素10，20和40 mg·kg^{-1}。在给予可卡因（预防性给药）或大蒜素（治疗性给药）24 h后处死小鼠，观察血清中谷丙转氨酶（GPT）、谷草转氨酶(GOP)和乳酸脱氢酶(LDH)活性，测定肝组织中还原性谷胱甘肽(GSH)、氧化性谷胱甘肽(GSSG)和丙二醛(MDA)含量, 并进行组织病理学观察。结果 单纯给予可卡因，血清中GPT，GOT和LDH活性升高，肝组织中GSH/GSSG比值下降，MDA含量增加，肝小叶中心出现大量变性坏死细胞。与单纯给予可卡因相比，预防性和治疗性给予大蒜素可明显降低血清中GPT，GOT和LDH活性，并使肝组织中GSH/GSSG比值升高，MDA含量下降，肝小叶中心变性坏死细胞减少，坏死区域缩小。结论 大蒜素可抑制可卡因引起的急性肝损伤，对可卡因所致急性肝中毒可能具有一定的治疗作用。

关键词 大蒜素 急性肝损伤 可卡因

分类号 R285,R975.5

Inhibitory effect of allicin on cocaine-induced acute liver injuries in mice

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Abstract

AIM To investigate the remedial effect of allicin on acute liver injury induced by cocaine. **METHODS** The mouse acute liver injury model was prepared by sc cocaine. In the pretreatment, the mice were given ip allicin 7.5, 15 and 30 mg·kg^{-1}·d^{-1}, respectively, for 4 d. Cocaine (75 mg·kg^{-1}) was given (sc) to the mice 30 min after allicin administration on d 4. In the remedial treatment, the mice were given sc cocaine (75 mg·kg^{-1}) and 30 min later followed by once allicin (ip) 10, 20 and 40 mg·kg^{-1} treatment, respectively. The activities of serum glutamic-pyruvic transaminase (GPT), glutamine-oxaloacetic transaminase (GOT) and lactate dehydrogenase (LDH), and the contents of reduced glutathione (GSH), oxidized glutathione (GSSG) and malondialdehyde (MDA) in liver tissue were examined at 24 h after cocaine administration (pretreatment) or allicin administration (remedial treatment). And the hepatic histopathological changes were also observed. **RESULTS** After the administration of cocaine, the activities of serum GPT, GOT and LDH increased, while the ratio of GSH/GSSG in liver tissue decreased. In addition, the MDA content in liver tissue elevated and large numbers of cells of degeneration and necrosis were found in the center of hepatic lobule. After the pretreatment or remedial treatment of allicin, the activities of the serum enzymes and the content of MDA in liver tissue decreased, while the ratio of GSH/GSSG in liver tissue increased. Significant amelioration in hepatic histopathologic changes was also presented. For example, the number of cells of degeneration and necrosis were decreased and the area of necrosis significantly shrinked in the center of hepatic lobule. **CONCLUSION** Allicin can inhibit the acute liver injuries induced by cocaine, which suggests the remedial effect of allicin on cocaine-induced acute hepatotoxicity.

Key words allicin acute liver injury cocaine

DOI: 10.3867/j.issn.1000-3002.2008.04.007

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