

论文

腹部火器伤肠管穿透后心肌细胞凋亡与COX-2的表达及意义

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摘要:

目的 探讨腹部火器伤肠管穿透后COX-2在心肌细胞凋亡信号转导中的作用, 了解腹部火器伤肠管穿透后继发性心脏损伤机制。方法 健康长白仔猪42头随机等分为对照组和伤后1、2、4、8、12和24h组, 实验组建立腹部火器伤肠管穿透模型后, 用免疫组化图像分析法测定各组心肌内COX-2表达, 同时测定心肌细胞凋亡和血浆内毒素变化情况。结果 伤后各组心肌内COX-2表达明显高于对照组, 心肌细胞凋亡指数和血浆LPS水平于伤后显著增高(P<0.05), 并与COX-2活性变化基本一致。结论 腹部火器伤肠管穿透后心肌内COX-2表达增强, 诱导心肌细胞凋亡增多, 导致心脏损伤。

关键词: 环加氧酶; 腹部火器伤; 心肌细胞凋亡; 心脏损伤

Expression and significance of COX-2 in myocyte apoptosis induced by intestinal perforations due to abdominal firearm wound

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Abstract:

Objective To investigate the role of COX-2 in signal transduction of myocyte apoptosis in order to know the mechanism of heart injury after intestinal perforations due to abdominal firearm wound. Methods A total of 42 Chang-bai piglets were randomized into 7 groups: the control group and 6 wound groups(1-, 2-, 4-, 8-, 12- and 24-h groups after wound). The model of intestinal perforations due to abdominal firearm wound was established in the wound groups. Expression of COX-2 in myocardial cells in all groups was measured with immunohistochemical staining and image analysis. Myocardial apoptosis indexes and plasma LPS levels were determined at the same time. Results Expression levels of COX-2 in myocardial cells were significantly elevated, and myocardial apoptosis indexes and plasma LPS levels were markedly increased in the wound groups than in the control group (P<0.05). All these changes were positively related to the changes of myocardial COX-2 activity. Conclusion Myocardial COX-2 expression increases after intestinal perforations due to abdominal firearm wound, which can induce myocardial apoptosis and heart injury.

Keywords: Cyclooxygenase-2; Abdominal firearm wound; Myocardial apoptosis; Heart injury

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