

论文

醋酸铅对体外培养人肾小管上皮细胞的毒性效应

贾庆华, 蒋军军, 哈小琴

中国人民解放军兰州军区兰州总医院医学实验中心, 甘肃省干细胞与基因药物重点实验室, 兰州 730050

摘要:

目的 探讨醋酸铅对人肾小管上皮细胞系HK-2的毒性效应。方法 醋酸铅处理HK-2后, Giemsa及HE染色法检测观察细胞形态学变化; 细胞免疫化学法检测凋亡相关蛋白P53、Bax、Bcl-2的表达; 流式细胞仪检测细胞凋亡率。结果 经10μmol/L和20μmol/L醋酸铅处理48h后, Giemsa及HE染色均显示醋酸铅组细胞成凋亡形态学改变。HK-2的细胞免疫化学结果示醋酸铅组的P53和Bax阳性表达升高, 而Bcl-2的阳性表达下降。流式细胞仪检测结果表明, 醋酸铅组细胞凋亡率较对照组明显升高。结论 醋酸铅可损伤HK-2, 促进其凋亡及影响肾脏。

关键词: 醋酸铅; 肾小管; 上皮细胞; 细胞凋亡

The toxic effect of lead acetate on renal tubular epithelial cell HK-2

JIA Qing hua, JIANG Jun jun, HA Xiao qin

Experimental Center of Medicine, Lanzhou General Hospital of Lanzhou Military Command of Chinese PLA, Key Laboratory of Stem Cell and Gene Drug in Gansu Province, Lanzhou 730050, China

Abstract:

Objective To explore the toxic effect of lead acetate on renal tubular epithelial cell HK-2. Methods HK-2 cells were treated with 10μmol/L and 20μmol/L lead acetate. After 48 hours, Giemsa and H E stainings were applied to observe the morphological changes of these cells, and expression levels of apoptosis-related genes P53, Bax and Bcl-2 were detected with the immunohistochemical method. The apoptosis rate was measured by flow cytometry. Results Characteristic apoptotic changes of HK-2 cells were observed in the treatment group. Immunohistochemical analysis indicated that expressions of P53 and Bax were increased, while expression of Bcl-2 was decreased after the treatment. The flow cytometry results showed that the cell apoptosis rate was higher in the treatment group than in the control group. Conclusion Lead acetate could remarkably inhibit renal tubular epithelial cell growth, promote apoptosis, and affect the kidney.

Keywords: Lead acetate; Kidney tubular; Epithelial cells; Apoptosis

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通讯作者: 哈小琴, 教授, 硕士生导师, 主要从事干细胞生长因子的研究。Email: haxq@yahoo.com

作者简介: 贾庆华(1979-), 女, 硕士研究生, 医师, 主要从事细胞生物学的研究。

作者Email:

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