

论著

川芎嗪对急性放射损伤小鼠骨髓中LFA-1、ICAM-1表达影响的研究

吴宁¹, 胡德蓉¹, 齐洁琳¹, 周登锋¹, 步兵¹, 张锡芹¹, 孙汉英^{2△}

1 山东省肿瘤防治研究院内一科, 山东 济南250117; 2 华中科技大学同济医学院附属同济医院血液科, 湖北 武汉430030

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摘要 目的: 探讨川芎嗪对急性放射损伤小鼠骨髓中LFA-1、ICAM-1表达水平的影响及其促进骨髓造血重建的机制。方法: 正常24只清洁级昆明小鼠随机分为3组: 正常组、生理盐水组和川芎嗪组。正常组未作任何处理, 将生理盐水组和川芎嗪组小鼠用6.0 Gy [⁶⁰Co] γ射线1次性全身均匀照射, 吸收剂量率为0.56 Gy/min。照射后即分别喂饲相同剂量的生理盐水(0.2 mL/只, 每天2次)和川芎嗪(2 mg/只, 每天2次), 直至处死为止。在照射后第7、14、21 d处死小鼠, 制备骨髓细胞悬液, 培养基质细胞, 用RT-PCR、Western blotting方法检测骨髓基质细胞ICAM-1 mRNA及其蛋白表达水平, 用流式细胞仪检测骨髓单个核细胞表面LFA-1表达水平。结果: 6.0 Gy [⁶⁰Co] γ射线照射后, 川芎嗪组骨髓单个核细胞表面LFA-1表达水平均显著高于生理盐水组(P<0.01或P<0.05); 骨髓基质细胞ICAM-1 mRNA及其蛋白表达水平均明显低于生理盐水组(P<0.01或P<0.05)。结论: 川芎嗪加快辐射后骨髓单个核细胞表面LFA-1的表达, 降低骨髓基质细胞ICAM-1的表达, 从而改善骨髓微环境, 促进造血重建。

关键词 [川芎嗪](#); [辐射损伤](#); [淋巴细胞功能相关抗原1](#); [胞间黏附分子1](#) [骨髓](#)

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Effect of ligustrazine on expression of LFA-1 and ICAM-1 in bone marrow of radiation injured mice

WU Ning¹, HU De-rong¹, QI Jie-lin¹, ZHOU Deng-feng¹, BU Bing¹, ZHANG Xi-qin¹, SUN Han-ying²

1 Department of Radiation Oncology, Shandong Tumor Hospital and Institute, Jinan 250117, China; 2 Department of Hematology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China. Hanying sun@hotmail.com

Abstract

AIM: To investigate the effect of ligustrazine on the expression of lymphocyte function-associated antigen-1 (LFA-1) and intercellular adhesion molecule-1 (ICAM-1) in bone marrow and on the mechanism of hematopoietic reconstitution in radiation injured mice. METHODS: The 24 mice (clean class) were randomly divided into 3 groups: normal group, radiation injured group and ligustrazine group. After irradiation by 6.0Gy [⁶⁰Co] γ-ray, the radiation injured animals were given normal saline (0.2 mL, twice a day) through gastric tube, while the ligustrazine group was given ligustrazine through gastric tube (0.2 mL, twice a day). The mice in normal group received no treatment. At the 7th, 14th, 21st day after irradiation, the femur were taken and the bone marrow mononuclear cells (BMNCs) suspension were made to culture bone marrow stromal cells (BMSCs). The mRNA and protein expressions of ICAM in BMSCs were assayed by RT-PCR and Western blotting. The expression levels of LFA-1 in BMNCs were evaluated by flow cytometry analysis. RESULTS: In ligustrazine group the expression levels of LFA-1 at the 7th, 14th and 21st days after irradiation were higher than those in radiation injured group (P<0.01 or P<0.05). However, the expression level of ICAM-1 was lower than that in the compared group (P<0.01 or P<0.05). CONCLUSION: Ligustrazine can increase the LFA-1 expression level of BMNCs, decrease the ICAM-1 expression level in BMSCs, indicating that ligustrazine promotes the recovery of hematopoietic cells in bone marrow, then improves the bone marrow microenvironment and enhances hematopoietic reconstitution.

Key words [Ligustrazine](#) [Radiation injuries](#) [Lymphocyte function-associated antigen-1](#) [Intercellular](#)

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