

论文

蝎毒多肽提取物对小鼠Lewis肺癌生长转移的抑制作用

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摘要:

目的 观察蝎毒多肽提取物(PESV)对Lewis肺癌(LLC)生长及转移的影响并探讨其作用机制。方法 采用30只C57BL/6J小鼠,右腋下接种Lewis肺癌细胞悬液,建立皮下种植瘤模型,随机分为荷瘤对照组、5-FU治疗组、PESV治疗组,连续灌胃给PESV18d,检测肿瘤体积并计算抑瘤率。另取20只C57BL/6J小鼠,尾静脉注射Lewis肺癌细胞悬液,建立Lewis肺癌实验转移模型,随机分为荷瘤对照组和PESV组,连续灌胃给PESV28d,观察肺部转移灶数目并计算转移抑制率;采用免疫组化法和ELISA法分别检测瘤组织及血清中骨桥蛋白(OPN)和基质金属蛋白酶-9(MMP-9)的表达。结果 PESV抑瘤率为46.02%,肺转移抑制率76.19%;与荷瘤对照组相比,瘤组织和血清中OPN和MMP-9的表达明显降低(P<0.05)。结论 PESV能抑制小鼠Lewis肺癌的生长与转移,其机制可能与抑制OPN和MMP-9的表达有关。

关键词: 蝎毒液类; 肺肿瘤; 明胶酶B; 小鼠; 骨桥蛋白质

Inhibitive effect of polypeptide extract from scorpion venom(PESV) on the growth and metastasis of Lewis lung carcinomas

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Abstract:

Objective To study the inhibitory mechanism of polypeptide extract from scorpion venom(PESV) on the growth and metastasis of Lewis lung carcinomas(LLC). Methods Thirty C57BL/6J mice were subcutaneously inoculated with LLC cells suspension(1×10⁻⁷/mL) in the right armpit. The tumor-bearing mice were randomly divided into three groups: the control group, the 5-fluorouracil(5-FU)group and the PESV group. PESV was intragastrically subjected to the mice for 18 days. The tumor volume and tumor inhibitory rate were determined. A LLC cell suspension(5×10⁻⁶/mL) was injected into the tail veins of another twenty C57BL/6J mice, which were randomly divided into two groups: the control group and the PESV group. PESV was intragastrically subjected to the mice for 28 days. The mice were killed and the numbers of lung metastatic nodules were measured. Expressions of OPN and MMP-9 were determined by immunohistochemical-staining and ELISA. Results The growth and metastasis inhibitory rate of PESV were respectively 46.02% and 76.19%. Expression levels of OPN and MMP-9 were both decreased in the tumor and serum. Compared with the control group, the differences were both significant(P<0.05). Conclusion PESV has an inhibitory effect on growth and metastasis of Lewis lung carcinoma.

Keywords: Scorpion venoms; Lung neoplasms; Gelatinase B; Mice;Osteopontin

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