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蝎毒多肽提取物对化疗期间再增殖H22肿瘤组织 HIF-1α和SDF-1/CXCR4表达的影响

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中文摘要:目的: 研究化疗期间再增殖中H22肿瘤组织HIF-1α和SDF-1/CXCR4表达的变化及蝎毒多肽提取物(polypeptide extract from scorpion venom,PESV)对其表达的影响,以探讨肿瘤组织再增殖期间新生血管生成发生的机制。 方法 :以免疫组织化学方法检测化疗期间不同时间点肿瘤组织HIF-1α,SDF-1及CXCR4的表达,以ELISA方法检测肿瘤组织SDF-1的含量,以Qwin V3图像分析软件对肿瘤组织HIF-1α,SDF-1及CXCR4表达进行分析,并进行相关性分析。 结果 :模型组肿瘤组织HIF-1α表达在第14天和第21天无差异性,在第28天表达水平显著升高;PESV低剂量组在3个时间点表达无差异性,而PESV高剂量组表达在第21天最低,在第14天最高,ELSA检测结果显示,荷瘤对照组表达逐渐增多,尤其是在第14~21天,增加迅速。模型组,SDF-1表达在14~21 d表达增加缓慢,但在21~28 d增加迅速;PESV高、低剂量组SDF-1表达水平增加缓慢,尤其是高剂量组,3个时间点肿瘤组织表达水平差异无显著性。免疫组织化学检测SDF-1结果和ELISA一致。对HIF-1α和SDF-1灰度值分析结果显示,r=0.805,两者存在相关性。PESV低、高剂量组肿瘤组织CXCR4下调,但PESV低、高剂量组之间无差异性。 结论 :在化疗期间肿瘤组织产生HIF-1α,HIF-1α诱导同质组织分泌SDF-1,HIF-1α和SDF-1促进VEGF的表达上调,从而诱发肿瘤内新生血管的生成。PESV有效抑制HIF-1α和SDF-1的表达。

中文关键词:蝎毒多肽提取物 缺氧诱导因子-1α 基质衍生因子-1 CXC 趋化因子受体4 再增殖 化疗

Effect of polypetide extract from scorpion venom(PESV) on expression of HIF-1α and SDF-1/CXCR4 in repopulating H22 tumour tissue during chemotherapy treatment

Abstract: Objective : To study the expression of HIF-1α and SDF-1/CXCR4 in repopulating H22 tumor tissue and the mechanism of angiogenesis of polypeptide extract from scorpion venom (PESV) during chemotherapy treatment. Method : The expression of HIF-1α and SDF-1/CXCR4 in H22 tumor tissue was monitored by immunohistochemistry, and the expression level was determined by Qwin V3 image analyzing software. The correlation between HIF-1α and SDF-1 was analyzed. SDF-1 content was detected by ELISA. Result : HIF-1α expression was found no difference in model group between 14 d and 21 d, and up-regulated in 28 d. There was no change of HIF-1α expression was observed in low-dose PESV group. In high-dose PESV group, the level of HIF-1α expression was high in 14 d and low in 21 d. ELISA detecting showed SDF-1 content increased slowly from 14 d to 21 d, highly from 21 d to 28 d. But in high-dose PESV groups, the content increased slowly all the time. The immunohitochemistry method got the same result with ELISA. Correlation analysis showed r=0.805. CXCR4 expression down-regulated in two PESV treated groups, and no difference was found between these two groups. Conclusion : HIF-1α and SDF-1 participated in VEGF expression and angiogenesis in tumor tissue during chemotherapy,while PESV could inhibit the expression of HIF-1α and SDF-1.

keywords:polypeptide extract from scorpion venom HIF-1α SDF-1 CXCR4 repopulation chemotherapy

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