

论文

螺旋藻多糖对荷瘤小鼠化疗后造血细胞增殖、凋亡及Bcl-2表达的影响

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摘要:

目的研究螺旋藻多糖(PSP)对肿瘤化疗后造血细胞增殖、凋亡及Bcl-2表达的影响。方法小鼠移植性实体瘤模型、用造血祖细胞体外培养、荧光和普通光学显微镜、ELISA及免疫组化方法,检测了造血细胞增殖、凋亡、Bcl-2表达及相关细胞因子含量。结果PSP明显改善了CTX引起的CFU-GM减少、造血细胞凋亡,并促进了IL-1,IL-3和GM-CSF分泌及造血细胞Bcl-2表达。结论PSP促进内源性细胞因子的分泌间接上调抗凋亡蛋白Bcl-2表达可能是其促进肿瘤化疗后造血细胞增殖并抑制其凋亡的分子机制之一。

关键词: 螺旋藻多糖 造血细胞 细胞凋亡 细胞因子

EFFECT OF POLYSACCHARIDE FROM SPIRULINA PLATENSIS ON HEMATOPOIETIC CELLS PROLIFERATION, APOPTOSIS AND Bcl-2 EXPRESSION IN MICE BEARING TUMOR TREATED WITH CHEMOTHERAPY

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Abstract:

AIMTo evaluate the effect of polysaccharide from Spirulina platensis (PSP) on hematopoietic cell proliferation, apoptosis and Bcl-2 expression in mice bearing tumor treated with chemotherapy. METHODSThe model of chemotherapy for transplant solid tumor in mice was established. The hematopoietic cell proliferation, apoptosis, Bcl-2 expression and related cytokines were assayed by the technique of culture of hematopoietic progenitor cell, fluoromicroscope and light microscope, immunohistochemical method, and double antibody sandwich ELISA. RESULTS PSP significantly ameliorated CFU-GM proliferation inhibition and hematopietic cells apoptosis induced by CTX. Moreover, PSP evidently increased the content of IL-1, IL-3, GM-CSF and TNF-α in serum and Bcl-2 expression of hematopoietic cells. CONCLUSIONPSP indirectly upregulated Bcl-2 expression of hematopoietic cells by promoting endogenous cytokines secretion which may be one of the mechanisms, by which PSP enhanced hematopoietic cell proliferation and inhibited its apoptosis in mice bearing tumor treated with chemotherapy.

Keywords: hematopoietic cells apoptosis cytokines polysaccharide from Spirulina platensis

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