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姜黄素对人肝癌细胞**Sk-hep-1**抗癌作用的研究

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中文摘要:目的: 研究姜黄素对人肝癌细胞Sk-hep-1体外抗癌作用,探讨其抗癌作用的分子机制。 方法: 应用MTT法、DAPI核染色法和细胞周期分析法,检测姜黄素对Sk-hep-1细胞生长和凋亡的影响,并通过RT-PCR方法检测姜黄素对Sk-hep-1细胞抗凋亡基因(Survivin和Bcl-xL)和耐药基因(DRG2和MDR1)mRNA表达的影响。 结果: 姜黄素抑制Sk-hep-1细胞增殖呈量效关系。姜黄素处理组肝癌细胞Sk-hep-1,HepG2和Hep3B细胞发生不同程度的凋亡,正常肝细胞Chang’s liver无明显凋亡。姜黄素处理组Sk-hep-1细胞周期发生变化,G_0/G_1或G_2/M期细胞比例增多。姜黄素处理组Sk-hep-1细胞耐药基因MDR1 mRNA水平显著下降,而抗凋亡基因的表达无明显变化。 结论: 姜黄素能够抑制Sk-hep-1细胞增殖,并诱导其凋亡,推测可能是通过下调MDR1 mRNA的表达而起作用。

中文关键词:姜黄素 肝癌细胞株Sk-hep-1 细胞凋亡 MDR1基因

Anticancer activities of curcumin on human hepatocarcinoma cell line Sk-hep-1

Abstract: To study the anticancer activities of curcumin on human hepatocarcinoma cell line Sk-hep-1 and its related molecular mechanism which has not been elucidated. In the present study,we showed that curcumin inhibited proliferation of Sk-hep-1 cells in a dose-dependent manner through MTT assay. The effect of curcumin on apoptosis in Sk-hep-1 cells was investigated by DAPI staining and the various apoptosis was observed in hepatocarcinoma cell lines Sk-hep-1, HepG2 and Hep3B, but not in normal liver cell line Chang's liver with curcumin treatment. Cell cycle analysis results showed that curcumin treatment resulted in dramatic accumulation of Sk-hep-1 cells at the G_0/G_1 or G_2/M phase. The effect of curcumin on the expression of anti-apoptosis genes (Survivin and Bcl-xL) and drug resistance genes (DRG2 and MDR1) was studied by reverse transcription-polymerase chain reaction (RT-PCR). The expression of MDR1 mRNA was significantly decreased in Sk-hep-1 cells treated with curcumin, while no alterations in the amount of DRG2 and anti-apoptosis genes' mRNA levels were found. These results indicate that curcumin is able to inhibit proliferation and induce apoptosis in Sk-hep-1 cells and it may cause by down-regulating the expression of MDR1 mRNA.

keywords:curcumin hepatocarcinoma cell line Sk-hep-1 apoptosis MDR1 gene

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