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论著

紫杉醇作用卵巢癌细胞系HO-8910后CYP1B1 mRNA及蛋白表达差异的研究

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摘要 背景与目的： 用紫杉醇(paclitaxel，PTX)对卵巢癌细胞系HO-8910进行体外化疗后，观察CYP1B1表达的变化,以期探讨CYP1B1基因表达与肿瘤细胞耐药的关系。 材料与方法： 以不同浓度PTX(分别为30、15、7.5、 3.75、1.88、0.94、0.47 μg/ml)处理HO-8910细胞，采用四甲基偶氮唑蓝(MTT)比色法检测PTX对HO-8910细胞体外生长的抑制作用，实验同时设只加培养液的对照组。以5 μg/ml PTX分别处理HO-8910细胞24 h、48 h、72 h和50 μg/ml PTX处理细胞24 h后，用RT-PCR技术检测存活的卵巢癌细胞中CYP1B1 mRNA的表达水平，用Western blot检测细胞CYP1B1蛋白表达。 结果： PTX能抑制HO-8910细胞生长，7种不同浓度的PTX作用72 h后，细胞的抑制率分别为89.10%、76.82%、67.39%、57.27%、46.21%、37.02%、17.56%，随着药物浓度的下降，其抑制率明显降低，各浓度组细胞抑制率间的差异具有统计学意义(P<0.05)。经PTX处理后存活的HO-8910细胞中CYP1B1 mRNA及蛋白的表达量增加，高于对照组；5 μg/ml PTX处理HO-8910细胞48 h、72 h和50 μg/ml的PTX处理24 h组，CYP1B1蛋白的表达量高于 5 μg/ml PTX 处理24 h组(P<0.05)。 结论： CYP1B1在卵巢癌细胞系中呈高表达， CYP1B1基因在卵巢癌细胞系HO-8910体外PTX化疗中起抑制作用。

关键词 CYP1B1； 卵巢癌； 紫杉醇； 肿瘤细胞

Alteration of CYP1B1 mRNA and Protein Expression in Ovarian Cancer Cell Line HO-8910 after Paclitaxel Chemotherapy in Vitro

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Abstract BACKGROUND AND AIM: To study the alteration of CYP1B1 gene expression in ovarian cancer cell HO-8910 after PTX chemotherapy in vitro, which can help us study the relationship between CYP1B1 gene expression and drug-resistance of cancer cells. MATERIALS AND METHODS:Ovarian cancer cells HO-8910 were cultured by tumor cell culture technique, inhibition of ovarian cancer cell growth induced by different concentration of PTX was assessed by methyl thiazolyl tetrazolium(MTT). Alterations of CYP1B1 mRNA and protein expression were evaluated by reverse transcription polymerase (RT-PCR) and Western blot in ovarian cancer cells cultured with PTX of 5 μg/ml for 24 h,48 h and 72 h or 50 μg/ml for 24 h. RESULTS: PTX inhibited the growth of ovarian cancer cell HO-8910, the inhibition rates by different concentrations of PTX after 72 h were 89.10%,76.82%,67.39%,57.27%,46.21%,37.02%,17.56%. The rate of cell inhibition decreased accordingly with the PTX concentration. In the surviving cells that had been cultured in PTX ,the expression of CYP1B1 mRNA and protein increased compared with control group. The CYP1B1 expression increased more in groups that had been treated with 5 μg/ml PTX for 48 h,72 h and 50 μg/ml compared to 5 μg/ml for 24 h group. CONCLUSION: CYP1B1 gene was highly expressed in ovarian cancer cell line, CYP1B1 gene may play an inhibitory role in PIX treatment of ovarian cancer cells HO-8910 in vitro.

Keywords CYP1B1 ovarian cancer paclitaxel tumor cell

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