



特异性核酶增强宫颈癌细胞对多种化疗药物的敏感度研究

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Anti-HPV16 E6-ribozyme Enhances Chemotherapeutic Drugs Sensitivity in Cervical Carcinoma Cell Line

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全文: PDF (390 KB) HTML (0 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 目的研究抗HPV16E6核酶(Ribozyme)在宫颈癌CaSKI细胞对多种化疗药物在体内外敏感度的影响。方法以脂质体法将抗HPV16E6-Ribozyme、空载体质粒分别导入CaSKI细胞,命名为CaSKI、CaSKI-R、CaSKI-P细胞。MTT敏感实验检测多种化疗药物对三种细胞的抑制率;建立三种宫颈癌细胞移植瘤裸鼠模型,检测顺铂(DDP)对其抑制作用;透射电镜观察顺铂作用后的三种细胞形态。结果与CaSKI-P、CaSKI细胞比较,DDP、VCR、5-Fu、MMC对CaSKI-R细胞的抑制率明显增加($P < 0.05$),CaSKI-R细胞对DDP、VCR、5-Fu、MMC的敏感度明显增加;ADM、MTX、INF、Taxol、Ara-C、CTX对CaSKI-R细胞的抑制率无明显变化($P > 0.05$),敏感度无明显变化;顺铂作用后CaSKI-R、CaSKI-P和CaSKI细胞移植瘤的重量分别为 (0.09 ± 0.03) g、 (0.26 ± 0.07) g和 (0.26 ± 0.05) g ($P < 0.05$),抑制率分别为81.63%、62.32%和63.38%;顺铂作用后CaSKI-R细胞出现明显的凋亡改变,而CaSKI、CaSKI-P细胞不明显。结论抗HPV16E6-Ribozyme增加了CaSKI细胞对DDP、VCR、5-Fu、MMC的敏感度,抑制了宫颈癌细胞移植瘤的生长并增加对DDP的敏感度。

关键词: 核酶 人乳头瘤病毒 药物敏感性 宫颈癌 裸鼠

Abstract: Objective To study the effect of anti-HPV16 E6-ribozyme on chemotherapeutic drugs sensitivity in cervical carcinoma cell line in vitro and vivo. Methods With the method of lipofectin transfection, the anti-HPV16E6-ribozyme and empty eucaryotic expressing plasmids were transfected into CaSKI cell named as CaSKI, CaSKI-R, CaSKI-P, respectively. The sensitivity to chemotherapeutic drugs was examined by MTT colorimetric assay. Nude mice transplanted by three kinds of cervical cancer cells were randomly divided into control groups and DDP groups, respectively. The tumor growth inhibition in the nude mice were observed. Transmission electromicroscope was applied to detect apoptosis. Results The inhibition rates of DDP, VCR, 5-Fu, MMC to CaSKI-R cell were significantly higher than those to CaSKI or CaSKI-P cells ($P < 0.05$). Anti-HPV16E6-ribozyme increased the sensitivity of CaSKI-R to DDP, VCR, 5-Fu, MMC in cervical carcinoma cell line. There were no dramatic changes in the inhibition rates of ADM, MTX, INF, Taxol, Ara-C, CTX in the three kinds of cells. The tumor weights in nude mice treated with DDP in CaSKI-R, in CaSKI-P and in CaSKI were (0.09 ± 0.03) g, (0.26 ± 0.07) g and (0.26 ± 0.05) g ($P < 0.05$), and the inhibitory rates were 81.63%, 62.32% and 63.38%, respectively. There were obvious ultrastructure changes related to apoptosis in CaSKI-R cells after being treated with DDP, and there weren't in CaSKI and CaSKI-P cells. Conclusion Anti-HPV16E6-ribozyme increased the sensitivity of CaSKI cells to DDP, VCR, 5-Fu and MMC, in vitro and to DDP in vivo.

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