肿瘤防治研究 2007, Vol. 34 Issue (1): 4-7 DOI:

EGCG对人耐药口腔表皮样癌细胞株耐药逆转的实验

梁 钢[1],林晓贞[1],唐安洲[2],黎 莉[1],周 铭[1]

1. 530021 南宁,广西医科大学药理教研室;2. 第一临床医学院耳鼻喉科

MDR-reversing Effect of (-)epigallocatechin-3-gallate on Human MDR Cell Lines KBV200

L IAN G Gang[1],L IN Xiao-zhen[1],TANG An-zhou[2],L I Li[1],ZHOU Ming[1]

1. Dep of Pharmacology, Guangxi Medical Universi ty, Nanning 530021, China;2. Department of Otolaryngology, The First Affiliated Hospital

全文: PDF (368 KB) HTML (0 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要

目的 研究EGCG对人多药耐药口腔癌细胞KBV200的细胞毒增敏作用及裸鼠移植瘤的抑瘤作用。方法 MTT法检测药物对细胞的毒性作用，流式细胞术分别检测细胞P糖蛋白的表达，HPLC检测细胞内VCR浓度，采用KB和KBV200细胞分别种植同一裸鼠左、右腋下，观察用药后体重、抑瘤率的改变。RT-PCR检测瘤组织mdr1的表达。结果 EGCG在100mg·L^{-1}以下剂量对两株肿瘤细胞的抑制率均小于10%，EGCG与VCR联合应用可明显提高VCR的细胞毒作用；EGCG联合VCR作用后KBV200细胞内VCR浓度升高，P糖蛋白的表达下降；EGCG可增加VCR对KBV200的抑瘤作用，可降低瘤组织MDR1的表达量。结论 EGCG可增强VCR对多药耐药肿瘤细胞KBV200的细胞毒作用，机制可能与降低MDRI-mRNA、P-gp表达，提高细胞内药物浓度有关。

关键词： 多药耐药 P 糖蛋白 耐药逆转剂 鳞癌

Abstract: Objective Experiment s were carried out to examine the potential of EGCG(epigallocatechingallate) as a multidrug resistance (MDR) reversal agents. Methods MTT assay was used to detect cytotoxicity of EGCG and vincristine (VCR) . Int racellular concent ration of VCR was detected by high performance liquid chromatograghy(HPLC) . Flow cytomet ry was used to determine the expression of P-gp.In a BALB/ C-nu/ nu mouse model ,cells of drug-sensitive KB and KBV200 (MDR) cell lines were inoculated to yield tumors in opposite flanks. EGCG and VCR were injected to the peritoneal of nude mice with carcinoma xenograf t s. MDR1 mRNA expression was observed with reverse-transcriptase PCR. Results Survival of cells incubated with EGCG at 75 mg/ l for 72 h was over 80 %. EGCG at 8 mg/ l almost completely reversed resistance to VCR in KBV200 cells and produced a 13. 0-fold reversal of MDR. It increased int racellular concent ration of VCR in KBV200 cells while not influence that in KB cells. In KBV200 xenograf t model , neither EGCG nor VCR inhibited tumor growth. However ,VCR and EGCG combined inhibited tumor growth by 72. 8 %. EGCG inhibited MDR1 expression and augmented accumulation of VCR in KBV200 cells. Conclusion The result s suggest that EGCGis a potent MDR-reversing agent in vit ro and in vivo. The mechanism is probably associated with down-regulating the expression of MDR1 and P-gp . So that increases the concent rations of anticancer drug in tumor cells.

Key words: Multidrug resistance P-glycoprotein Resistance reversal agents Squamous cell carcinoma

收稿日期: 2005-12-27;

引用本文:

梁 钢,林晓贞,唐安洲等. EGCG对人耐药口腔表皮样癌细胞株耐药逆转的实验[J]. 肿瘤防治研究, 2007, 34(1): 4-7.

L IAN G Gang,L IN Xiao-zhen,TANG An-zhou et al. MDR-reversing Effect of (-)epigallocatechin-3-gallate on Human MDR Cell Lines KBV200[J]. CHINA RESEARCH ON PREVENTION AND TREATMENT, 2007, 34(1): 4-7.

[1] 王耕;黄韬;薛家鹏;王明华;惠震 . 三羟异黄酮对人乳腺癌MCF-7/ADM细胞体外抑瘤效应、细胞周期及凋亡的影响 [J]. 肿瘤防治研究, 2011, 38(8): 886-890.
[2] 许淑茹;马军;袁志刚;黄勇奇;苏上贵;胡启平 . 蛇毒精氨酸酯酶Agkihpin对人鼻咽癌CNE-2细胞系MRP1表达的影响 [J]. 肿瘤防治研究, 2011, 38(7): 731-735.
[3] 刘枋;林志强;陈慧菁;林艳;林丽婷;陈强;叶韵斌 . 血清Cyfra21-1和SELDI技术联合检测肺鳞癌的临床意义[J]. 肿瘤防治研究, 2011, 38(5): 539-541.
[4] 覃纲;刘文军;梁灼萍;陈祖尧;余玲;黎万荣. 尼美舒利对人喉鳞癌Hep-2细胞裸鼠移植瘤CD44和MMP-7表达的影响[J]. 肿瘤防治研究, 2011, 38(5): 490-494.
[5] 陈漫霞;姚振江;陈思东;王漫云;许雅;蔡旭玲 . 原发性肝细胞癌中P-gp、TopoⅡα和P53的 表达及意义 [J]. 肿瘤防治研究, 2011, 38(3): 278-280.
[6] 李伟忠;王晓燕;霍秋菊. 环氧合酶-2抑制剂对人舌鳞癌Tca8113/BLM 细胞MDR1/P-gp表达的影响[J]. 肿瘤防治研究, 2011, 38(1): 9-12.
[7] 燕贞;沈飞;李智涛;周舫;王娜;姚武;吴卫东;吴逸明. 肺鳞癌组织中Annexin-1 的表达及意义[J]. 肿瘤防治研究, 2011, 38(1): 38-40.
[8] 王 雷;单保恩;李 莉;何 明;孟宪利;张 冰;王士杰. 食管鳞癌组织中PTEN、PI3K和Paxillin的表达及其临床意义[J]. 肿瘤防治研究, 2010, 37(4): 425-427.
[9] 李 娜;李珊珊;张红艳;轩小燕;郑献召;王 丰;闫爱华. 转染KISS-1对裸鼠食管鳞癌移植瘤生长的 影响[J]. 肿瘤防治研究, 2010, 37(2): 136-140.
[10] 丁广成;王立东;任景丽;郭军辉;袁翎;郭涛. 同一个体食管贲门双源癌中人乳头瘤病毒感染和p16INK4A蛋白表达[J]. 肿瘤防治研究, 2010, 37(2): 172-174.
[11] 卢红;樊青霞;王瑞林. 人食管鳞癌紫杉醇耐药细胞株Ec9706/P-1 凋亡的变化[J]. 肿瘤防治研究, 2010, 37(12): 1356-1359.
[12] 刘莺;刘文静;王居峰;樊青霞. 恩度联合多西紫杉醇和顺铂一线治疗晚期食管鳞癌的疗效[J]. 肿瘤防治研究, 2010, 37(12): 1426-1429.
[13] 吴凤鹏;张 明;张海娟;高献书;王雅棣;董稚明;乔学英;刘志坤;孟宪利 . 食管鳞癌术后复发因素的Logistic回归分析[J]. 肿瘤防治研究, 2010, 37(1): 56-59.
[14] 赵珍珍;罗 庆;宿玉玺;郑改焕;刘 伟;金先庆. Ad-EGFP-MDR1转染对小鼠骨髓细胞的影响[J]. 肿瘤防治研究, 2010, 37(08): 855-858.
[15] 王新华;李珊珊;田 芳;郑献召;李道明;孙 洋. siRNA阻断Stat3信号促进食管鳞癌细胞株凋亡[J]. 肿瘤防治研究, 2010, 37(08): 873-877.