

进展期非小细胞肺癌BRCA1 mRNA和RAP80 mRNA表达水平与临床病理特征的关系

The BRCA1 mRNA and RAP80 mRNA expression levels in relation to clinicopathological characteristics in advanced non-small cell lung cancer

中文关键词: 乳腺癌易感基因1 受体相关蛋白80 非小细胞肺癌

英文关键词: BRCA1 RAP80 Non-small cell lung cancer

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中文摘要:

背景与目的: 乳腺癌易感基因1(breast cancer susceptibility gene 1, BRCA1)及受体相关蛋白80(receptor-associated protein 80, RAP80)在化疗引起的损伤应答中发挥重要作用。本研究旨在探讨非小细胞肺癌(non-small cell lung cancer, NSCLC)石蜡包埋组织中BRCA1 mRNA及RAP80 mRNA表达水平与III~IV期NSCLC患者临床病理特征和EGFR、p53、VEGF、Her-2及COX-2蛋白表达水平的相关性。**方法:** 采用RT-PCR检测64例III~IV期NSCLC石蜡组织BRCA1 mRNA和RAP80 mRNA的表达水平, 使用Mann-Whitney U检验、Kruskal-Wallis检验和Spearman等级相关分析的方法研究BRCA1、RAP80表达水平的相关性及其与NSCLC患者的临床病理特征及EGFR、VEGF、p53、Her-2及COX-2蛋白表达的相关性。**结果:** BRCA1与RAP80的表达呈正相关($r=0.534$, $P<0.001$)。BRCA1 mRNA表达水平的高低与NSCLC患者的组织学类型、吸烟史及EGFR的表达密切相关。在腺癌、鳞癌及大细胞肺癌患者中, BRCA1 mRNA高表达的比例分别为32.4%、76.2%和66.7%($P=0.001$); 有吸烟史的患者中, 66.7%的肿瘤组织BRCA1 mRNA高表达, 而在无吸烟史的患者中, BRCA1 mRNA高表达的比例仅占40.0%($P=0.001$); 在EGFR阳性NSCLC患者中, BRCA1 mRNA高表达者占37.1%, 在阴性的患者中占68.2%($P=0.014$)。而BRCA1 mRNA表达水平与p53、VEGF、Her-2及COX-2蛋白表达无明显相关性。RAP80 mRNA高表达在有、无吸烟史患者中分别为61.9%和46.5%($P=0.037$), RAP80 mRNA表达水平与EGFR、VEGF、Her-2、COX-2及p53蛋白的表达无明显相关性。**结论:** NSCLC中BRCA1 mRNA和RAP80 mRNA表达水平与吸烟史相关; BRCA1 mRNA的表达水平与组织学类型及EGFR蛋白表达相关。

英文摘要:

Background and purpose: Breast cancer susceptibility gene 1 (BRCA1) and receptor-associated protein 80 (RAP80) play important roles in chemotherapy-induced DNA damage response. The purpose of this study was to investigate whether BRCA1 and RAP80 mRNA expression levels were associated with clinicopathological parameters and EGFR, p53, VEGF, Her-2 and COX-2 protein levels in stage III-IV non-small cell lung cancer (NSCLC) patients. **Methods:** The mRNA expression levels of BRCA1 and RAP80 were measured using real-time quantitative RT-PCR in 64 stage III-IV NSCLC patients. The relationship between BRCA1 mRNA and RAP80 mRNA expression levels with clinicopathological parameters and EGFR, VEGF, p53, Her-2 and COX-2 protein expression were analyzed by Mann-Whitney U test, Kruskal-Wallis test and Spearman test. **Results:** The mRNA expression levels of BRCA1 and RAP80 were positive correlated ($r=0.534$, $P<0.01$). BRCA1 mRNA levels were significantly higher expressed in squamous cell carcinomas and large cell carcinoma when compared with adenocarcinomas (32.4%, 70.2% vs 66.7%, respectively, $P=0.001$). The mRNA expression levels of BRCA1 in smokers were higher than non-smokers (66.7% vs 40.0%, $P=0.001$). In patients with positive EGFR expression, the BRCA1 mRNA levels were significantly lower than that with negative expression (37.1% vs 68.2%, $P=0.014$). But there were no differences in gene expressions of BRCA1 according to the negative or positive protein expressions of VEGF, p53, Her-2 and COX-2. RAP80 mRNA levels were significantly higher expressed in smokers than non-smokers (61.9% vs 46.5% $P=0.037$). No differences were observed in RAP80 mRNA expression levels according to the protein expressions status of EGFR, VEGF, p53, Her-2 and COX-2. **Conclusion:** In NSCLC, the mRNA expression levels of BRCA1 and RAP80 were associated with smoking history. The expression of BRCA1 was different according to histology as well as EGFR protein expressions.

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