

原发胃B细胞淋巴瘤PIK3CA基因扩增检测及其对AKT通路的影响

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Title: Detection of PIK3CA gene amplification in primary gastric B cell lymphoma and its effect on AKT pathway

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摘要: 目的: 检测30例原发胃B细胞淋巴瘤石蜡包埋标本中PIK3CA扩增及蛋白表达, 并观察PI3K/AKT通路中AKT激活状况。方法: 实时荧光定量PCR检测PIK3CA基因拷贝数, 逆转录PCR检测PIK3CA mRNA拷贝数, 免疫组化法检测PIK3CA蛋白表达及p-AKT473的表达水平。结果: 30例患者中, 11例(36.7%)患者出现PIK3CA基因扩增, 其中MALT淋巴瘤2例(28.6%), 套细胞淋巴瘤4例(57.1%), DLBCL 5例(31.3%)。5例(16.7%)患者出现PIK3CA mRNA基因扩增, 8例(26.7%) PIK3CA蛋白阳性表达。PIK3CA基因DNA扩增与PIK3CA蛋白表达之间存在统计学相关性($P=0.007$), 但与mRNA扩增无关($P=0.865$)。PIK3CA蛋白与磷酸化AKT473表达之间存在统计学差异($P=0.012$)。结论: 原发胃B细胞淋巴瘤中存在PIK3CA扩增和蛋白表达, 并可能进一步激活下游的AKT分子。

Abstract: Objective: To detect PIK3CA amplification and protein expression in paraffin embedded specimens of 30 cases with primary gastric B cell lymphoma, and to observe the activation of AKT in PI3K/Akt pathway. Methods: The copy number of PIK3CA gene was detected by real-time fluorescence quantitative PCR. The copy number of PIK3CA mRNA was detected by reverse transcriptase PCR, and the expression of PIK3CA protein and the expression of p-AKT473 were detected by immunohistochemistry. Results: Of the 30 patients, 11 patients had PIK3CA gene amplification (36.7%), including 2 MALT lymphomas (28.6%), 4 mantle cell lymphomas (57.1%), and 5 DLBCLs (31.3%). PIK3CA mRNA amplification was found in 5 patients (16.7%), and 8 cases were positive for PIK3CA protein (26.7%). There was a statistical correlation between the DNA amplification of PIK3CA gene and the expression of PIK3CA ($P=0.007$), but it was not related to mRNA amplification ($P=0.865$). There was a significant relation between the expression of PIK3CA protein and phosphorylated AKT473 ($P=0.012$). Conclusion: PIK3CA amplification and protein expression can be observed in primary gastric B cell lymphoma and may further activate downstream AKT molecules.

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