

技术交流

TGFβ1/Smads信号通路相关蛋白在乳腺癌组织中的表达及其临床意义

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摘要:

目的: 研究TGFβ1/Smads信号通路相关蛋白在乳腺癌组织中的表达, 阐明其与乳腺癌临床病理学特征的关系。方法: 采用免疫组化EnVision方法检测121例乳腺导管癌和21例正常乳腺导管上皮组织芯片中TGFβ1、TGFβR I、TGFβR II、Smad2/3和Smad4蛋白的表达水平, 分析其与乳腺癌临床病理学特征的关联性。结果: 免疫组化染色, TGFβ1、TGFβR I、Smad2/3和TGFβR II在乳腺癌组织均呈高表达, Smad4在乳腺癌组织表达水平明显低于正常导管上皮中的表达水平(P<0.01); ≤55岁乳腺癌患者TGFβ1表达水平明显高于 >55岁患者(P<0.05); 孕激素受体(PR)阴性乳腺癌患者TGFβ1表达水平明显高于PR阳性患者(P<0.05), 未发生淋巴结转移乳腺癌患者TGFβ1、TGFβR I和TGFβR II的表达水平明显高于淋巴结转移患者(P<0.05或P<0.01); 不同临床分期乳腺癌患者TGFβR II和Smad2/3表达水平具有明显差异, IIa、IIb和IIIa期乳腺癌患者TGFβR II表达水平明显低于0期(P<0.01), I期和IIb期乳腺癌患者Smad2/3表达明显低于在0期(P<0.01)。TGFβ1表达水平分别与TGFβR I和TGFβR II表达水平呈正相关关系(r=0.46,P<0.01; r=0.44, P<0.01)。结论: TGFβ1/Smads信号通路相关蛋白的高表达可以作为乳腺癌的辅助诊断指标, 提示TGFβ1/Smads信号通路相关蛋白检测可作为判定乳腺癌预后的指标。

关键词: TGFβ1/Smads; 乳腺肿瘤; 免疫组织化学

Expressions of TGFβ1/Smads proteins in breast cancer tissues and their clinical significances

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Abstract:

Abstract: Objective To investigate the expressions of TGFβ1/Smads signaling pathway proteins in breast cancer tissues and clarify their relationship with the clinicopathological characteristics of breast cancer. Methods The expressions of TGFβ1, TGFβR I, TGFβR II, Smad2/3 and Smad4 proteins in 121 cases of breast ductal carcinoma and 21 cases of normal breast ductal epithelium tissues were detected in tissue microarray by immunohistochemistry EnVision method, and the relationship between their expressions and clinicopathological characteristics of breast cancer was analyzed. Results The immunohistochemical staining results showed that the expressions of TGFβ1, TGFβR I, TGFβR II and Smad2/3 in breast cancer tissues were higher; and the expression of Smad4 in breast cancer tissues was lower than that in normal ductal epithelium tissue (P<0.01). The expression level of TGFβ1 in less than 55 years of age patients was significantly higher than that in over 55 years of patients (P<0.05); and the TGFβ1 expression in patients with breast cancer in PR negative group was significantly higher than that in positive group (P<0.05). The expressions of TGFβ1, TGFβR I and TGFβR II in patients without lymph node metastasis were significantly higher than those in patients with metastasis (P<0.05 or P<0.01). The expressions of TGFβR II and Smad2/3 had significant differences between patients with different clinical stages. The expressions of TGFβR II in the patients with breast cancer in stage IIa, IIb and IIIa were lower than that in stage 0 (P<0.01). The Smad2/3 expression in the patients with breast cancer in stage I and IIb were lower than that in stage 0 (P<0.01). The expression of TGFβ1 was positively correlated to the expressions of TGFβR I and TGFβR II (r=0.46, P<0.01; r=0.44, P<0.01). Conclusion High expression of TGFβ1/Smads proteins might be helpful markers for the diagnosis of breast cancer. It indicates that TGFβ1/Smads proteins can be used as indicators in judging the prognosis of breast cancer.

Keywords: TGFβ1/Smads; breast neoplasms; immunohistochemistry

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