

mTOR蛋白和Beclin 1蛋白在三阴性乳腺癌组织中的表达及临床意义

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Title: The expression and clinical significance of mTOR protein and Beclin 1 protein in triple-negative breast cancer

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关键词: 三阴性乳腺癌; mTOR蛋白; Beclin 1蛋白; 免疫组化; 相关性

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摘要: 目的: 探讨三阴性乳腺癌组织中mTOR蛋白、Beclin 1蛋白的表达,以及二者与三阴性乳腺癌各临床病理参数之间的关系。方法: 检测mTOR蛋白和Beclin 1蛋白在80例三阴性乳腺癌组织及62例癌旁组织中的表达情况,并分析其表达与患者临床病理参数之间的关系,以及两种蛋白之间的相关性。结果: mTOR和Beclin 1蛋白在三阴性乳腺癌组织中阳性率分别为67.5% (54/80) 及30% (24/80), 在癌旁组织中阳性率为35.5% (22/62) 及93.5% (58/62), 差异具有统计学意义; mTOR蛋白的阳性表达与淋巴结转移呈正相关 ($P < 0.05$) ; Beclin 1蛋白阳性表达与组织学分级呈负相关,与Ki67的表达及TNM分期呈正相关, mTOR蛋白和Beclin 1蛋白表达呈负相关 ($P < 0.05$) 。结论: mTOR蛋白和Beclin 1蛋白的异常表达可能参与三阴性乳腺癌的发生发展。

Abstract: Objective: To discuss the expression of mTOR protein and Beclin 1 protein in triple-negative breast cancer(TNBC), and explore the relationship between clinic pathological parameters of these two kinds of proteins. Methods: To detect the expression of mTOR protein and Beclin 1 protein in 80 cases of TNBC tissues and the expression of 62 cases of normal tissue adjacent to carcinoma, so that we can analyze the relationship of their expression and clinical pathological parameters of patients, and the correlations between these two proteins. Results: The expression of mTOR protein and Beclin 1 protein in TNBC tissue was 67.5%(54/80) and 30% (24/80), in normal tissue adjacent to carcinoma positive rate was 35.5%(22/62) and 93.5%(58/62), the difference is statistically significant. The expression of mTOR protein is positively correlated with lymph node metastasis ($P < 0.05$). The Beclin 1 protein has negative relationship with histological grade, but its expression has positive relationship with the expression of Ki67 and TNM stage. The expression of mTOR protein and Beclin 1 protein is significant difference on statistics by paired χ^2 test, indicating that the two proteins have negative correlation. Conclusion: The abnormal expression of mTOR protein and Beclin 1 protein may be involved in the development of TNBC.

参考文献/REFERENCES

[1] Wangqing Chen, Rongshou Zheng, Peter D, et al. Cancer statistics in China, 2015 [J]. CA Cancer J Clin, 2016, 66(2):115-132.

[2] Sun Jianjian, Wei Minjie. Research progress on the immunotherapy of the triple-negative breast cancer [J]. Modern Oncology, 2017, 25(7):1144-1147. [孙健健, 魏敏杰. 三阴性乳腺癌免疫治疗研究新进展 [J]. 现代肿瘤医学, 2017, 25(7):1144-1147.]

[3] Li Suzhen, Xu Feng, Sun Changqing, et al. Research advances in the mammalian target of rapamycin signaling pathway and its inhibitors in treatment of hepatocellular carcinoma [J]. Chin J Hepatol, 2018, 30(1):77-80. [李素珍, 徐锋, 孙长青, 等. 雷帕霉素靶蛋白信号通路及其抑制剂在肝细胞肝癌中的研究进

展 [J] .中华肝脏病杂志,2018,30(1):77-80.]

[4] Yan Zhao,Hongli Sun,Minjuan Feng,et al.Metformin is associated with reduced cell proliferation in human endometrial cancer by inhibiting PI3K/AKT/mTOR signaling [J] .Gynecological Endocrinology,2018,34(5): 428-432.

[5] Huang Luqiao,Jiang Yingjian,Sun Zhenqing,et al.Autophagy strengthens intestinal mucosal barrier by attenuating oxidative stress in severe acute pancreatitis [J] .Digestive Diseases and Sciences,2018,63(4):910-991.

[6] Miao Tian,Yu Chen,Dan Tian,et al.Beclin1 antagonizes LAPT4B-mediated EGFR overactivation in gastric cancer cells [J] .Gene,2017,626:48-53.

[7] Han Xue,Song Zixuan,Ouyang Ling.Expression and clinical significance of autophagy related gene Beclin1 in vulvar squamous cell carcinoma [J] .Modern Oncology,2017,25(10):1604-1608. [韩雪,宋子璇,欧阳玲.自噬相关基因Beclin1在外阴鳞癌中的表达及临床意义 [J] .现代肿瘤医学,2017,25(10):1604-1608.]

[8] Kang R,Zeh HJ,Lotze MT,et al.The Beclin 1 network regulates autophagy and apoptosis [J] .Cell Death and Differentiation,2011,18(4):571-580.

[9] Suxia Zhang,Min Wang,Qirong Li,et al.MiR-101 reduces cell proliferation and invasion and enhances apoptosis in endometrial cancer via regulating PI3K/Akt/mTOR [J] .Cancer Biomarkers:Section A of Disease Markers,2017,21(1):179-186.

[10] Ao Zhou,Shuaifeng Li,Faheem Ahmed Khan,et al.Autophagy postpones apoptotic cell death in PRRSV infection through Bad-Beclin1 interaction [J] .Virulence,2016,7(2):98-109.

[11] Quan Wang,Weiyang He,Yizhou Zeng,et al.Inhibiting autophagy overcomes docetaxel resistance in castration-resistant prostate cancer cells [J] .International Urology and Nephrology,2018,50(4):675-686.

[12] Furong Liu,Song Gao,Yuxuan Yang,et al.Antitumor activity of curcumin by modulation of apoptosis and autophagy in human lung cancer A549 cells through inhibiting PI3K/Akt/mTOR pathway [J] .Oncology Reports,2018,39(3):1523-1531.

[13] Rao R,Balusu R,Fiskus W,et al.Combination of pan-histone deacetylase inhibitor and autophagy inhibitor exerts superior efficacy against triple-negative human breast cancer [J] .Mol Cancer Ther,2012,11(4):973-983.

[14] Zhu Kun,Xu Ming,Ding Mina,et al.3-MA combined with TSA inhibits growth of triple-negative breast cancer cells [J] .Chinese Journal of Pathophysiology,2017,33(8):1524-1527. [朱坤,徐明,丁米娜,等.3-甲基腺嘌呤联合曲古霉素A抑制三阴性乳腺癌细胞生长 [J] .中国病理生理杂志,2017,33(8):1524-1527.]

[15] Liu Zhaoyun,He Kewen,Song Xingguo,et al.Effect of autophagy inhibitor combined with EGFR inhibitor on triple-negative breast cancer MDA-MB-468 and MDA-MB-231 cells [J] .Chin J Oncol,2016,38(6):417-424. [刘兆芸,贺科文,宋兴国,等.自噬抑制剂可增强三阴性乳腺癌细胞系MDA-MB-468和MDA-MB-231对吉非替尼的敏感性 [J] .中华肿瘤杂志,2016,38(6):417-424.]

[16] Wen Jian,Wang Qian,Tu Wei.The role of autophagy in tumor treatment [J] .Modern Oncology,2016,24(16):2633-2637. [温健,王倩,涂巍.自噬在肿瘤治疗中的作用 [J] .现代肿瘤医学,2016,24(16):2633-2637.]

[17] Hamacher-Brady A,Brady NR.Mitophagy programs:Mechanisms and physiological implications of mitochondrial targeting by autophagy [J] .Cell Mol Life Sci,2016,73(4):775-795.

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