中南大学学报(医学版) 2012, 37(1) 94-99 DOI: 10.3969/j.issn.1672-7347.2012.01.017 ISSN: 1672-7347 CN: 43-1427/R

论著

甲基化转移酶DNMT1,DNMT3a及DNMT3b在子宫内膜异位症中的表达

杨娟[1], 方小玲[2]

1. 湖南省肿瘤医院妇瘤科, 长沙410003;
2. 中南大学湘雅二医院妇产科, 长沙410011

摘要:

目的:检测DNA甲基化转移酶DNMT1,DNMT3a, DNMT3b在子宫内膜异位症(dendometriosis, EMs)异位内膜、在位内膜及正常对照子宫内膜的表达。**方法**:收集子宫内膜异位症巧克力囊肿20例为实验组,行输卵管吻合术者、宫颈病变行手术者20例为对照组,抽提总RNA,反转录制备cDNA。采用real-time RT-PCR 检测DNMT1,DNMT3a及DNMT3b基因的表达,并通过免疫荧光验证DNMTI在EMs异位内膜和在位内膜以及正常对照组子宫内膜中的表达。**结果**:Real-time RT-PCR检测表明DNMT1, DNMT3a和DNMT3b 在EMs异位内膜和在位内膜的表达较正常内膜低($P<0.05$)。DNMT1, DNMT3a和DNMT3b在异位内膜的表达较对照组正常内膜的表达的倍数变化分别是0.44,0.12和0.27;三者在在位内膜的表达较对照组正常内膜的表达的倍数变化分别是0.27,0.13和0.15;三者在异位内膜与在位内膜的表达差异无统计学意义($P>0.05$)。免疫荧光检测结果表明DNMT1蛋白在EMs患者异位内膜及在位内膜中表达显著降低。**结论**:DNMT1,DNMT3a 及DNMT3b在EMs中的异常低表达可能导致患者表观遗传学异常,参与EMs的发病。

关键词: DNA 甲基转移酶 子宫内膜异位症 表观遗传学 基因表达 甲基化

Expression of DNMT1, DNMT3a, and DNMT3b in eutopic endometrium

YANG Juan[1], FANG Xiaoling[2]

1. Department of Gynecologic Oncology, Tumor Hospital of Hunan Province, Changsha, 410003;
2. Department of Gynecology and Obstetrics, Second Xiangya Hospital, Central South University, Changsha 410011, China

Abstract:

Objective: To examine the expression of DNMT1, DNMT3a, and DNMT3b in the eutopic and ectopic endometrium in women with endometriosis. Methods: RT-PCR and real-time RT-PCR were used to examine the expression of DNMT1, DNMT3a, and DNMT3b in the eutopic and ectopic endometrium in 20 women with endometriosis and the endometrium in 20 women without endometriosis. Immunofluorescene staining was used to detect the expression of DNMT1 in these tissues. Results: The expression levels of DNMT1, DNMT3a, and DNMT3b were significantly lower in the ectopic endometrium and eutopic endometrium than those of the control endometium ($P<0.05$). The changes in the ectopic endometium compared with the control endometium were 0.44, 0.12, and 0.27 folds for DNMT1, DNMT3a, and DNMT3b, respectively, and these in the eutopic endometrium were 0.27, 0.13, and 0.15 folds for DNMT1,DNMT3a, and DNMT3b, respectively. The expression level of DNMT1, DNMT3a, and DNMT3b between the ectopic endometrium and eutopic endometrium was not significantly different ($P>0.05$). Immunofluorescence staining that DNMT1 protein level signigicantly decreased in the ectopic endometrium and eutopic endometrium of endometriosis patients. Conclusion: Decreased expression levels of DNMT1, DNMT3a, and DNMT3b in the ectopic endometrium and eutopic endometrium may play a role in patients with abnormal epigenetics which may lead to endometriosis.

Keywords: DNA methyltransferase endometriosis epigenetics genetic expression methylation

收稿日期 2011-07-03 **修回日期** **网络版发布日期**

DOI: 10.3969/j.issn.1672-7347.2012.01.017

基金项目:

通讯作者: 方小玲, Email: fxlfxl0510@126.com

作者简介: 杨娟,硕士, 主治医师,主要从事妇科疾病的研究。

作者Email: fxlfxl0510@126.com

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