[an error occurred while processing this directive]

山东大学学报(医学版) 2013, 51(6) 75-80 DOI: ISSN: 1671-7554 CN: 37-1390/R

临床医学

SOCS-3和3-OST-2基因甲基化在子宫内膜癌中的作用及其临床病理意义

陈海燕，姚树哲，张晓莹，张建平，张翠娟，张廷国

山东大学医学院病理学教研室， 济南 250012

摘要：

目的 研究子宫内膜癌(EC)中相关抑癌基因(SOCS-1、SOCS-3、3-OST-2、DLC-1)的启动子甲基化状态，探讨其临床病理意义。方法 收集60例EC、79例增生子宫内膜和27例正常子宫内膜标本，运用甲基化特异性PCR(MSP)技术检测4个抑癌基因的甲基化状态；MSP和实时荧光定量PCR法检测表观遗传学药物处理前后Ishikawa细胞株中抑癌基因甲基化及mRNA表达变化。结果 在EC中,SOCS-1和DLC-1基因甲基化率较低(分别为13.3%和21.7%),SOCS-3和3-OST-2基因甲基化率很高(分别为88.3% 和78.3%)，且SOCS-3在复杂和不典型增生中就出现高频率的甲基化(分别为53.3%和54.2%)。3-OST-2甲基化与肿瘤分化呈正相关(P＜0.05)。SOCS-3和3-OST-2在Ishikawa细胞株中均呈完全甲基化状态，DNA甲基转移酶(DNMT)抑制剂5-Aza-dC或组蛋白去乙酰化酶(HDAC)抑制剂TSA处理后甲基化均得到部分逆转，mRNA表达明显增加，且TSA效果优于5-Aza-dC；两药联合处理后甲基化被完全逆转，mRNA水平显著升高。结论 SOCS-3、3-OST-2基因启动子甲基化在EC中是一个频发事件，且SOCS-3甲基化的发生早于3-OST-2。DNA甲基化和组蛋白修饰共同参与了3-OST-2和SOCS-3的基因表达调控，并存在交叉作用。

关键词： 子宫内膜肿瘤；抑癌基因；DNA甲基化；表观遗传

Effect of the methylation of SOCS-3 and 3-OST-2 genes in endometrial cancer and its clinical pathological significances

CHEN Hai-yan, YAO Shu-zhe, ZHANG Xiao-ying, ZHANG Jian-ping, ZHANG Cui-juan, ZHANG Ting-guo

Department of Pathology， School of Medicine, Shandong University， Jinan 250012，China

Abstract:

Objective To analyze the promoter methylation status of multiple tumor suppressor genes (TSGs) (SOCS-1, SOCS-3, 3-OST-2, DLC-1) in endometrial carcinoma (EC) and explore its clinical pathological significances. Methods Sixty EC samples, 79 hyperplasia endometrium and 27 normal endometrium were collected. We performed methylation specific PCR (MSP) to detect the promoter methylation of the TSGs. The changes of DNA methylation and gene expression before and after the treatment of epigenetic drugs in Ishikawa cells were investigated by MSP and Real-time PCR, respectively. ResultsIn EC, the methylation rate of SOCS-1 and DLC-1 genes was low(13.3% and 21.7%, respectively), and that of SOCS-3 and 3-OST-2 genes was very high (88.3% and 78.3%, respectively). High frequency of SOCS-3 methylation was also found in complex hyperplasia and atypical hyperplasia (53.3% and 54.2%, respectively). 3-OST-2 was positively correlated with tumor differentiation (P＜0.05). Both SOCS-3 and 3-OST-2 complete methylation were detected in untreated Ishikawa cells and were partially reversed by 5-Aza-dC or TSA. Expression of mRNA increased and TSA was more efficient than 5-Aza-dC in inducing the gene expression. After treatment by the combination of the two inhibitors, SOCS-3 and 3-OST-2 methylation was completely reversed and mRNA SOCS-3 and 3-OST-2 significantly increased. Conclusions SOCS-3 and 3-OST-2 promoter methvlaion is an early and frequent event in EC and the methylation of SOCS-3 occurred earlier than that of 3-OST-2. DNA methylation and histone modifications contribute to the transcriptional regulation of SOCS-3 and 3-OST-2, and there is a cross-

扩展功能
本文信息
Supporting info
PDF(1156KB)
[HTML全文]
参考文献[PDF]
参考文献
服务与反馈
把本文推荐给朋友
加入我的书架
加入引用管理器
引用本文
Email Alert
文章反馈
浏览反馈信息
本文关键词相关文章
子宫内膜肿瘤；抑癌基因；DNA甲基化；表观遗传
本文作者相关文章
PubMed

talk between them.

Keywords: Endometrial neoplasms; Tumor suppressor gene; DNA methylation; Epigenetic

收稿日期 2013-03-21 修回日期 网络版发布日期

DOI:

基金项目: