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高迁移率族蛋白在卵巢癌的诊断价值及其对卵巢癌疾病进展的调控功能*

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High-mobility group protein B1 (HMGB 1) and its potential in diagnosis and treatment of ovarian cancer

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摘要

目的：研究高迁移率族蛋白（HMGB 1）在上皮性卵巢癌、卵巢良性疾病及健康人血清中的表达情况及与临床治疗的关系，通过RNA干扰抑制探讨HMGB 1 对卵巢癌细胞增殖、迁移和侵袭的影响。方法：ELISA 检测47例卵巢癌患者手术前及术后1个月血清中HMGB 1 表达水平，30例卵巢良性疾病患者作为良性肿瘤组，30例健康女性作为正常对照组；靶向HMGB 1 基因的慢病毒载体转染卵巢癌细胞，并利用RT-PCR 和Western Blot方法检测干扰效果，CCK-8 法检测细胞增殖情况，Transwell 小室模型
检测细胞侵袭迁移能力。结果：卵巢癌组HMGB 1 水平明显高于良性肿瘤组与正常对照组（P<0.01），卵巢癌术后HMGB 1 较术前明显降低（P<0.01），抑制HMGB 1 的表达可以降低卵巢癌细胞的增殖、侵袭、迁移能力。结论：HMGB 1 水平与卵巢癌进展密切相关，其表达下调可显著抑制卵巢癌细胞的增殖和迁移侵袭能力，有望对卵巢癌的临床检测及治疗提供新思路。

关键词 ： 高迁移率族蛋白质类，卵巢肿瘤，RNA干扰

Abstract :

Objective:The objective of this research is to study the serum level of the high-mobility group protein B1 (HMGB 1) in human ovarian tumor (OvCa) and in a healthy control. This study also aims to identify different HMGB1 levels before and after sur -gery and to explore the inhibitory effect of HMGB1 gene silencing in the proliferation and invasion ability of OvCa. Methods:En-zyme-linked immunosorbent assay was used to measure the serum level of HMGB 1 in OvCa patients and healthy subjects. Lentivirus vector with HMGB 1 shRNA was constructed and used to infect OvCa cells. The expressions of HMGB 1 mRNA and protein were test-ed by real-time PCR and Western blot. Cell proliferation was detected using the Cell Counting Kit- 8 assay, whereas cell invasion and migration were detected by Transwell assay. Results:The serum level of HMGB 1 was more elevated in patients with malignant diseas -es compared with individuals with benign diseases and the control groups. In the malignant group, the serum level of HMGB 1 de -creased noticeably after therapy. Down-regulation of HMGB1 expression resulted in the inhibition of the biological behavior and metas-tasis of ovarian cancer cells. Conclusion:HMGB1 is closely associated with clinicopathologic features of OvCa. Knockdown of HMGB1 expression can significantly inhibit cell proliferation, cell migration, and cell invasion of OvCa. These findings indicate that HMGB1 can function as a therapeutic target for ovarian neoplasm in the future.

Key words : high mobility group protein ovarian neoplasm RNA interference

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