中南大学学报(医学版) 2010, 35(12) 1219- DOI: 10.3969/j.issn.1672-7347.2010. ISSN: 1672-7347 CN: 43-1427/R

论著

MGMT蛋白在甲状腺癌中的表达及其临床意义

夏米西努尔·伊力克1， 古力娜尔·库尔班2， 杨曦3， 武爽1， 阿布力孜·阿布杜拉4

1.新疆医科大学基础医学院生物学教研室, 乌鲁木齐 830011； 2.新疆医科大学基础医学院病理学教研室,乌鲁木齐 830011； 3.兰州军区新疆沙湾69234部队卫生队, 新疆 沙湾 832100；4.新疆医科大学新疆地方病分子生物学重点实验室,乌鲁木齐 830011

摘要：

目的：探讨O6-甲基鸟嘌呤-DNA甲基转移酶（O6-methylguanine-DNA methyltransferase, MGMT）在甲状腺癌组织中的表达及其临床意义。方法：用免疫组织化学SP法检测61例甲状腺癌、21例甲状腺良性腺瘤、15例桥本氏甲状腺炎、8例结节性甲状腺肿和12例癌旁正常组织中MGMT蛋白的表达，并结合临床病理因素进行分析。结果：MGMT在甲状腺癌组织中的表达与正常组织中的表达差异有统计学意义（P＜0.05）。MGMT表达从正常组织（16.67%，10/12）、结节性甲状腺肿（25.00%，2/8）、桥本氏甲状腺炎（60.00%，9/15）、甲状腺腺瘤（52.38%，11/21）到甲状腺癌（60.66%，38/61）中表达水平基本呈上升趋势。在甲状腺乳头状癌与甲状腺滤泡癌的表达差异有统计学意义（P＜0.05），表达水平随甲状腺癌恶性程度的增加而降低，分别为乳头状癌（72.22%，26/36）、滤泡癌（50.00%，8/16）。MGMT在性别、年龄及民族组中表达差异均无统计学意义（P＞0.05）。结论：MGMT高表达现象可能与甲状腺癌恶性程度有关，可成为候选的临床分子诊断指标。甲状腺癌组织的MGMT蛋白在性别、年龄和民族组表达均无差异，有望成为通用的临床检测指标。

关键词： 甲状腺肿瘤 O6-甲基鸟嘌呤-DNA甲基转移酶 表达 免疫组织化学

Expression of MGMT and its clinopathological significance in thyroid carcinoma

Xiamixinuer·YILIKE1， Gulinaer·KUERBAN2， YANG Xi3， WU Shuang1， Abulizi·ABUDULA4

1. Department of Biology, College of Preclinical Medicine, Xinjiang Medical University, Urumqi 830011;
2. Department of Pathology, College of Preclinical Medicine, Xinjiang Medical University, Urumqi 830011;
3. Lanzhou Military Xinjiang Sawan 69234 Army, Sawan Xinjiang 832100;
4. Xinjiang Key Laboratory of Molecular Biology and Endemic Diseases, Xinjiang Medical University, Urumqi 830011, China

Abstract:

ObjectiveTo study the expression of O6-methylguanine-DNA methyltransferase (MGMT) and its clinicopathological significance in thyroid cancer. MethodsImmunohistochemistry was used to determine the expression of MGMT in 61 thyroid cancer tissues, 21 thyroid adenomas, 15 Hashimoto's thyroiditis, 8 nodular goiter, and 12 peri-tumor tissues. ResultsThere was statistic difference in the expression of MGMT between the normal tissues and thyroid cancers （P<0.05）. Expression of MGMT increased from the normal tissue （16.67%， 10/12）, nodular goiter （25.00%， 2/8）, Hashimoto's thyroiditis （60.00%， 9/15）, and thyroid adenoma （52.38%， 11/21）to thyroid cancer （60.66%， 38/61）. Expression of MGMT in papillary thyroid cancer （PTC） and follicular thyroid cancer (FTC) had significant difference （P<0.05）, and the expression level of MGMT decreased with the malignancy of thyroid cancer, such as in PTC （72.22%， 26/36）, and FTC （50.00%， 8/16）. There was no statistic difference in MGMT expression in sex, age, and nationality （P＞0.05）.ConclusionHigh expression of MGMT might be related to the malignancy of thyroid cancer, which may be one of the diagnosis indexes for thyroid cancer. It will be a common clinical index in diagnosing thyroid cancer since there is no difference in MGMT expression among sexes, ages, and nationalities.

Keywords: thyroid cancer；MGMT；expression；immunohistochemistry

收稿日期 2010-10-10 修回日期 网络版发布日期

DOI: 10.3969/j.issn.1672-7347.2010.

基金项目:

通讯作者:

作者简介:
作者Email: abulizi_a@126.com

参考文献：

［1］Harden S V, Tokumaru Y, Westra W H, et al. Gene promoter hypermethylation in tumors and lymph nodes of stage I lung cancer patients ［J］. Clin Cancer Res, 2003, 9 (4) : 1370-1375.
［2］Esteller M, Garcia-Foncillas J, Andion E, et al. Inactivation of the DNA-repair gene MGMT and the clinical response of gliomas to alkylating agents ［J］. N Engl J Med, 2000, 343 (19): 1350-1354.
［3］Ishida E, Nakamura M, Shimada K, et al. DNA hypermethylation status of multiple genes in papillary thyroid carcinomas ［J］.Pathobiology, 2007，74 (6):344-352.
［4］Jacob R, Shafiei N, Nagel G, et al. MGMT activity in mucosal epithelium and squamous cell carcinoma of the head and neck ［J］. Anticancer Res，2010，30 (7):2561-2566.
［5］况丽平, 吴名耀, 吴贤英，等.食管癌组织中PTEN与MGMT基因蛋白的表达［J］. 中华肿瘤防治杂志，2007，14（10）：31-34.
KUANG Liping, WU Mingyao, WU Xianying, et al. Expressions of PTEN and MGMT gene proteins in esophageal carcinoma［J］. Chinese Journal of Cancer Prevention and Treatment, 2007,14(10):31-34.
［6］Kweekel D M, Antonini N F, Nortier J W. et al. Explorative study to identify novel candidate genes related to oxaliplatin efficacy and toxicity using a DNA repair array ［J］. Br J Cancer, 2009,101 (2):357-362.
［7］Piperi C, Themistocleous M S, Papavassiliou G A, et al. High incidence of MGMT and RARbeta promoter methylation in primary glioblastomas: association with histopathological characteristics, inflammatory mediators and clinical outcome［J］. Mol Med, 2010,16 (1/2):1-9.
［8］冯向先，李志芳，王丽冰，等. MGMT基因多态性与食管癌易感性关系［J］. 中国公共卫生,2008, 24 (6):697-699.
FENG Xiangxian, LI Zhifang, WANG Libing, et al. Relationship between MGMT gene polymorphism and susceptibility of esophageal cancer ［J］. Chinese Journal of Public Health，2008, 24(6):697-699.
［9］Sharma G, Mirza S, Parshad R, et al. Clinical significance of promoter hypermethylation of DNA repair genes in tumor and serum DNA in invasive ductal breast carcinoma patients［J］. Life Sci, 2010，87(3/4):83-91.
［10］Matsukura S, Soejima H, Nakagawachi T, et al. CpG methylation of MGMT and hMLH1 promoter in hepatocellular carcinoma associated with hepatitis viral in faction ［J］. Br J Cancer, 2003, 88(4): 521-529.
［11］Tanaka K, Iwamooto S, Gon G, et al. Expression of survivin and its relationship to loss of apopotosis in breast carcinomas ［J］. Clin Cancer Res, 2000, 6(1): 127-134.
［12］周庚寅，觉道健一.甲状腺病理与临床 ［M］. 北京: 人民卫生出版社，2005:135-136.
ZHOU Gengyin, JUEDAO Jianyi. Thyroid gland pathology and clinic ［M］. Beijing: People’s Medical Publishing House，2005:135-136.
［13］陈玮莹, 沈忠英. 甲基鸟嘌呤甲基转移酶表达调节在肿瘤发生和治疗中的作用［J］. 生物化学与生物物理进展, 2002, 29(1): 26-29.
CHEN Weiying, SHEN Zhongying. The function of control expression of methylguanine methyltransferase in the tumorgenesis and the treatment ［J］.Biochemistry and Biophysics Progress, 2002, 29(1): 26-29.
［14］董红梅, 沈忠英. DNA修复酶MGMT与肿瘤关系的研究进展［J］. 癌症 • 畸变 • 突变, 2003, 15(1): 61-64.
DONG Hongmei, SHEN Zhongying. Advance in Research on the Relationship between DNA repair enzyme MGMT and Cancer ［J］. Carcinogenesis,Teratogenesis, Mutagenesis, 2003, 15(1): 61-64.
［15］崔灵芝, 章扬培, 宋三泰. MGMT与恶性肿瘤［J］. 军事医学科学院院刊, 2004, 28(4): 385-387.
CUI Lingzhi, ZHANG Changpei, SONG Santai. MGMT and malignant tumor ［J］. Bulletin of the Academy of Military Medical Sciences, 2004, 28(4): 385-387.

本刊中的类似文章

1．张宏波； 魏启幼； .MMP-9,CD34在甲状腺乳头状癌中的表达[J]. 中南大学学报(医学版), 2003,28(4): 427-