

血浆 Omentin-1 与肾上腺偶发瘤的相关性研究

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摘要 目的 检测肾上腺偶发瘤(AIs)患者血浆脂肪因子网膜素-1(Omentin-1)、总胆固醇(TCH)、高密度脂蛋白胆固醇(HDL-C)、低密度脂蛋白胆固醇(LDL-C)的水平,并探讨其与AIs之间的关系。方法 采用ELISA法测定34例AIs患者(术后病理证实腺瘤34例)和24例健康志愿者的血浆Omentin-1水平。结果 与对照组比较,AIs患者血浆Omentin-1、TCH、HDL-C、LDL-C的水平显著升高($P < 0.01$)。多元线性回归分析表明唯独AIs影响血浆Omentin-1的表达水平。结论 血浆Omentin-1在AIs患者中高表达。血浆Omentin-1与AIs发病存在相关性,并且独立于肥胖影响之外。

关键词 肾上腺偶发瘤;Omentin-1;脂肪因子

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自从1941年肾上腺偶发瘤(adrenal incidentalomas, AIs)首次被报道,随着腹部成像技术的不断提高及临床广泛应用,AIs的诊断变得越来越普遍^[1]。在一般人群胸腹部CT扫描中,AIs发病率为0.8%~5%^[2]。CT检查显示肾上腺占位的检出率与年龄相关,年轻人(20~29岁)的发病率较低(0.2%),老年人发病率较高(7%~10%)^[3]。伴随着我国老年化的进程,AIs患者的诊疗成为我国医疗保健的重要部分。近年来,研究人员发现肥胖与直肠癌、前列腺癌的发生密切相关,但其与AIs之间的关系却知之甚少。研究^[4]表明AIs患者普遍存在肥胖、糖尿病、葡萄糖耐受不良、血脂异常等。脂肪组织作为一个代谢活跃的内分泌器官,可产生脂联素、瘦素、抵抗素、内脂素、Apelin、网膜素-1(Omentin-1)等脂肪因子。研究^[5]显示血清脂肪因子脂联素水平与AIs密切相关。Omentin-1是一个34 ku脂肪因子,特异性在网膜脂肪组织中高表达^[6],目前已证实在前列腺癌^[7]患者中存在血浆Omentin-1变化,而在AIs方面尚无报道。该研究旨在检测AIs患者中血浆Omentin-1水平变化,探讨Omentin-1与AIs发病

Analysis of illness perceptions and related factors in patients with maintenance hemodialysis

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Abstract Objective To explore illness perception (IP) and its predictors in patients with maintenance hemodialysis (MHD). **Methods** The questionnaire for general materials and the revised illness perception questionnaire (IPQ-R) were used to investigate 194 patients with MHD. **Results** The average score of identity was (5.64 ± 3.19). The score of each dimension of IP ranged from 2.92 to 4.18, dimension of timeline(acute/chronic) got the highest score and timeline cyclical got the lowest score. Multivariate linear regression analysis showed that age, gender, marital status, and comorbidity were the influencing factors of IP. **Conclusion** Patients with MHD have negative IP. Healthcare professionals should focus on the IP of MHD patients, and take measures according to influencing factors to improve their status.

Key words end stage renal disease; hemodialysis; illness perception

的关系,为 AIs 的临床诊疗提供理论依据。

1 材料与方法

1.1 病例资料 选择2014年7月~2015年4月于安徽医科大学第一附属医院泌尿外科新诊断的肾上腺占位患者34例为肿瘤组,其中男10例,女24例。肾上腺占位均经术后病理检查证实明确诊断。排除标准:既往有恶性肿瘤病史、糖尿病、各种急性感染性疾病、严重心、肝、肾功能的损害。同时选取安徽医科大学第一附属医院健康体检者24例为对照组,其中男6例,女18例,体检证实身体均为健康者。本研究得到安徽医科大学第一附属医院医学伦理委员会的批准。检查项目均在参与者知情同意下进行。

1.2 指标检测方法 体重、身高等均由专业人员进行人体测量,体重指数(body mass index, BMI) = 体重/身高²(kg/m²)。研究对象均为禁食12 h后,于清晨7时抽取静脉血(肿瘤组患者于入院后次日采血),采用酶化学法(日本岛津公司生产的CL-7300全自动生化分析仪)测定空腹血糖(fasting blood sugar, FBS)、总胆固醇(total cholesterol, TCH)、三酰甘油(triglycerides, TG)、高密度脂蛋白胆固醇(high density lipoprotein-cholesterol, HDL-C)、低密度脂蛋白胆固醇(low density lipoprotein-cholesterol, LDL-C)。Omentin-1检测的采血时间与生化指标同时进行。抽取静脉血2 ml,放置于EDTA抗凝管中,每1 ml血液样品中加入60 μl的抑肽酶,以8 000 r/min离心4 min,分离血清分装至1.5 ml冻存管中,置于-80℃冰箱中备用,使用ELISA法测定血浆Omentin-1水平(人Omentin-1试剂盒购自美国CUS-ABIO公司)。

1.3 统计学处理 应用SAS软件进行分析,两组性别比较采用 χ^2 检验,计量资料以 $\bar{x} \pm s$ 表示,数据采用 t 检验;多元线性回归分析方法进行处理分析血浆Omentin-1与其他变量之间的相关关系。

2 结果

2.1 肿瘤组与对照组临床参数、生化指标比较 两组间性别差异无统计学意义($\chi^2 = 0.06, P = 0.717$)。与对照组比较,肿瘤组TCH、HDL-C、LDL-C的表达水平明显升高,差异有统计学意义($P < 0.01$)。见表1。

2.2 肿瘤组与对照组血清Omentin-1的表达 与对照组比较,肿瘤组血浆Omentin-1的表达水平升

高[(13.52 ± 1.18) ng/ml vs (9.96 ± 2.37) ng/ml],差异有统计学意义($t = -2.36, P = 0.025$)。

2.3 血浆Omentin-1的多元线性回归分析 以BMI、FBS、TCH、TG、HDL-C、LDL-C为自变量,以Omentin-1为反应变量进行多元线性回归分析,结果显示肿瘤组是血浆Omentin-1表达水平的影响因素($P < 0.05$),见表2。

表1 临床参数、生化指标比较($\bar{x} \pm s$)

变量	肿瘤组(n=34)	对照组(n=24)	t值	P值
年龄(岁)	45.03 ± 11.45	48.38 ± 13.80	0.76	0.319
BMI(kg/m ²)	24.07 ± 2.92	24.01 ± 2.20	0.01	0.955
FBS(mg/dl)	5.96 ± 1.94	5.35 ± 0.47	-1.85	0.136
TCH(mg/dl)	4.65 ± 1.07	3.05 ± 0.96	-4.01	0.001
TG(mg/dl)	1.22 ± 0.40	1.61 ± 0.66	0.26	0.940
HDL-C(mg/dl)	1.47 ± 0.44	1.11 ± 0.36	-3.48	0.002
LDL-C(mg/dl)	2.73 ± 0.89	2.02 ± 0.76	-3.81	0.003

表2 血浆Omentin-1的多元线性回归分析

变量	参数估计值	标准误差	II型SS	t值	P值
常量	1.20	0.41	6.21	8.41	0.00
分组	0.60	0.24	4.54	6.16	0.01

3 讨论

随着年龄的增长,AIs的发病率也随之提高^[8]。随着经济的发展、环境的变化以及生活习惯的改变,肥胖的发生率也随之升高^[9]。肥胖与直肠癌、肾癌、前列腺癌等多种肿瘤的发生密切相关。众所周知,库欣综合症患者存在向心性肥胖,但肥胖与AIs之间的因果关系及其机制尚不清楚。脂肪因子脂联素与原发醛固酮增多症^[10]、嗜铬细胞瘤^[11]、库欣综合症^[12]密切相关。本实验检测出AIs患者血浆Omentin-1水平升高。两组间反应肥胖状态的指标差异无统计学意义,提示Omentin-1与本组人群AIs可能存在密切联系,而且这种相关关系可独立于肥胖影响之外。此结论有待进一步扩大样本量来证实。

研究^[13]显示肥胖患者体内血浆Omentin-1水平降低,并且与BMI、WHR呈负相关性,与血清脂联素和HDL-C水平呈正相关性。Choi et al^[14]报道多囊卵巢综合征患者血浆Omentin-1水平均与BMI呈负相关性。Assadi et al^[15]发现BMI与Omentin-1并不存在显著相关关系。而本组资料中两组间血浆Omentin-1、TCH、HDL-C、LDL-C差异有统计学意义,BMI差异无统计学意义。但多元线性回归分析显示

仅 AIs 对血浆 Omentin-1 表达水平有显著影响。由此可见,血浆 Omentin-1 的水平与 AIs 密切相关。

综上所述,本研究首次表明 AIs 患者血浆 Omentin-1 水平升高,与 AIs 发病存在相关关系,并且独立于肥胖影响之外。目前临床 CT 为诊断及治疗方案的选择的常用方法,但 CT 对人体尚有一定的伤害。血浆 Omentin-1 的表达水平为 AIs 的诊疗提供了方向。然而,本研究无法明确 Omentin-1 与 AIs 发病之间的因果关系,具体机制有待进一步体外细胞研究以及动物实验来证实。

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Relationship between serum Omentin-1 and adrenal incidentalomas

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Abstract Objective To measure the levels of adrenal incidentalomas (AIs) patient's serum Omentin-1, total cholesterol (TCH), high density lipoprotein-cholesterol (HDL-C), low density lipoprotein-cholesterol (LDL-C) and to explore the relationship between them and AIs. **Methods** Serum omentin-1 levels were measured by ELISA method in 34 patients with AIs (34 cases of postoperative pathology confirmed adenoma) and 24 cases of healthy volunteers. **Results** Compared with controls, Omentin-1 levels of patients with AIs serum Omentin-1, TCH, HDL-C, LDL-C were markedly elevated ($P < 0.01$). Multiple linear regression analysis showed that only AIs affect the expression levels of serum Omentin-1. **Conclusion** Omentin-1 levels were increased in AIs patients. The serum Omentin-1 levels were correlated with the onset of AIs, and independent of obesity and other biochemical measurements.

Key words adrenal incidentalomas; Omentin-1; adipocytes