

论文

哈萨克族代谢综合征与游离脂肪酸及胰岛素抵抗关系

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摘要:

目的 探讨游离脂肪酸(FFA)、胰岛素抵抗(IR)与新疆哈萨克族代谢综合征(MS)关系。**方法** 在哈萨克族人群现况调查中,随机抽取MS患者195例和健康者120人进行病例对照研究;检测糖代谢相关指标,采用比色法测定FFA浓度,采用放射免疫法测定空腹胰岛素(FINS)浓度,计算胰岛素抵抗指数(HOMA_{IR})。结果 MS病例组男性FFA为(0.57±0.22)mmol/L,女性为(0.65±0.24)mmol/L,对照组男性为(0.46±0.22)mmol/L,女性为(0.52±0.17)mmol/L;MS病例组男性HOMA_{IR}为(5.17±4.89),女性为(3.75±3.37),对照组男性为(1.62±1.29),女性为(2.20±1.53);2组男、女性FFA、HOMA-IR差异均有统计学意义(均 $P<0.01$);随着FFA浓度与HOMA_{IR}的增加,MS患者比例增加;多因素logistic回归分析显示,FFA浓度为0.55 mmol/L~、0.69 mmol/L~,对MS的影响分别 $OR=4.374(95\%CI=1.271\sim15.046)$ 和 $OR=4.208(95\%CI=1.068\sim16.586)$;HOMA_{IR}为3.96~时,对MS的影响 $OR=8.552(95\%CI=2.064\sim35.428)$;FFA、HOMA_{IR}与MS各组分的相关均有统计学意义($P<0.05$);调整年龄、性别、HOMA_{IR}等影响后,FFA只与腰围、舒张压相关($P<0.05$)。**结论** 胰岛素抵抗可能是新疆哈萨克族人群中MS重要的独立危险因素,而FFA可能不是一个独立危险因子,它可能通过其他机制影响机体产生胰岛素抵抗,从而导致MS及其各组分的发生和发展。

关键词: 哈萨克族 代谢综合征(MS) 游离脂肪酸(FFA) 胰岛素抵抗(IR)

Relationship between free fatty acid and insulin resistance in Kazakh people with metabolic syndrome in Xinjiang area

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Abstract:

To investigate the relationship between free fatty acid(FFA) and insulin resistance(IR) in Kazakh people with metabolic syndrome(MS) in Xinjiang Uygur Autonomous Region.Methods Totally 195 MS patients and 120 health controls were sampled.FFA was measured with colorimetry and fasting insulin(FINS) was measured with radio immunity method,and the insulin resistance index determined by hemeostasis model assessment (HOMA_{IR}) was calculated.Results FFA and HOMA_{IR} were significantly higher in the MS than those in the controls(FFA:0.57±0.22 vs 0.46±0.22, $P=0.000$ for male,0.65±0.24 vs 0.52±0.17, $P=0.000$ for female; HOMA_{IR}:5.17±4.89 vs 1.62±1.29, $P=0.000$ for male,3.75±3.37 vs 2.20±1.53, $P=0.004$ for female).FFA and HOMA_{IR} were correlated with MS and the prevalence of MS increased with FFA level and HOMA_{IR}.After adjustment for age,gender,smoking,alcohol consumption,body mass index(BMI) and HOMA_{IR} using a multivariate logistic regression,FFA was significantly associated with MS.The odds ratio(OR) of MS for the people in the third and fourth quartile of FFA was 4.374 and 4.208 (all $P<0.005$).HOMA_{IR} was significantly associated with MS and the odds ratio (OR) for the fourth quartiles of HOMA_{IR} was 8.552.FFA and HOMA_{IR} correlated significantly with triglyceride (TG),high density lipoprotein cholesterol(HDL-C),fasting plasma glucose(FPG),systolic blood pressure(SBP),diastolic blood pressure(DBP),and waist circumference(WC) in the simple correlation analysis($P<0.05$).After adjustment for age,gender,and HOMA_{IR} in partial correlation analysis,FFA was correlated significantly with WC and DBP only.Conclusion IR may be an important and independent risk factor for MS and FFA may not be an independent risk factor but it may lead to MS and the components of MS through inducing IR by other mechanisms.

Keywords: Kazakh metabolic syndrome free fatty acid insulin resistance

收稿日期 2011-01-21 修回日期 网络版发布日期

DOI: 10.11847/zgggws2012-28-09-08

基金项目:

国家科技支撑计划项目(2009BAI82B04);新疆生产建设兵团国际科技合作项目(2009YD33);兵团博士基金

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参考文献:

[1] Eschwege E.The dysmetabolic syndrome,insulin resistance and increased cardiovascular(CV) moridity and mortality in type 2 diabetes:aetiological factors in the development of CV complications [J].Diabetes Metab,2003,29(4 Pt 2): 6S19-27.

[2] McGarry JD.Banting lecture 2001.Dysregulation of fatty acid metabolism in the etiology of type 2 diabetes[J].Diabetes,2002,51 (1): 7-18.

[3] 郭恒,郭淑霞,张景玉,等.新疆哈萨克族人群代谢综合征患病率调查[J].中华流行病学杂志,2010,31(7): 83-87.

[4] Alberti KG,Zimmet P,Shaw J.IDF Epidemiology Task Force Consensus Group.The metabolic syndrome-a new worldwide definition[J].Lancet,2005,366(9): 1059-1062.

[5] Wang XL,Zhang L,Keith Y,et al.Free fatty acids inhibit insulin signaling-stimulated endothelial nitric oxide synthase activation through upregulating PTEN or inhibiting Akt kinase[J].Diabetes,2006(55): 2301-2310.

[6] 李秀钧,钱荣立.美国糖尿病学会第64届学术年会代谢综合征专题简介[J].中华糖尿病杂志,2004,12(5): 377-378.

[7] Yu D,Peng X,Zhao L,et al.Effects of alcohol and high-fat diet on the expression of phosphatidylinositol 3-kinase in rat adipose tissue[J].Wei Sheng Yan Jiu,2009,38(4): 395-397.

[8] Tian L,Hou X,Liu J,et al.Chronic ethanol consumption resulting in the downregulation of insulin receptor-b subunit,insulin receptor substrate-1 and glucose transporter 4 expression in rat cardiac muscles[J].Alcohol,2009,43(1): 51-58.

[9] 李光伟.胰岛素敏感性评估及其在临床研究中的应用[J].中华内分泌代谢杂志,2000,16(3): 198-200.

[10] 刘静,赵冬,刘军,等.代谢综合征与自由脂肪酸的关系[J].中华心血管病杂志,2005,33(7): 653-657.

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2. 齐春娜, 郭淑霞, 马儒林, 郭恒, 丁玉松, 张景玉, 徐上知, 孙凤.PPAR γ 2基因多态性与哈萨克族代谢综合征关系[J]. 中国公共卫生, 2013,29(4): 493-495
3. 胡健伟, 冯艳, 蔡晓琴, 牛晓虎, 冯佩, 佟伟军, 许钺. 不同性别居民尿酸水平与代谢综合征相关性[J]. 中国公共卫生, 2013,29(4): 562-565
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5. 芮东升, 秦江梅, Susanne Weigelin-Schwiedrzik, Sascha Klotzbücher, 吴艳辉, 聂绍发. 哈萨克族牧民2周患病率和慢性病患病率比较[J]. 中国公共卫生, 2012,28(8): 1023-1026
6. 史惠, 陈绍纳, 李璐, 张澜, 苗蕾, 田瑶, 陈秀琴, 姚华. 新疆哈萨克族居民高尿酸血症与脂代谢关系[J]. 中国公共卫生, 2012,28(5): 593-595
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9. 张强, 唐斌, 何芳, 王刚, 邹放君, 邓峰美. 原发性高血压与eNOS基因多态性相关性分析[J]. 中国公共卫生, 2012,28(2): 145-148

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