

研究报告

## II型糖尿病患者APOA5-1131T/C基因多态性与血脂代谢和胰岛素抵抗的关系研究

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### 摘要

为了探讨载脂蛋白A5基因(APOA5)-1131T/C多态性在中国镇江地区的频率分布及其与血浆脂质代谢和II型糖尿病患者胰岛素抵抗的关系,采用聚合酶链反应-限制性片段长度多态性分析(PCR-RFLP)结合琼脂糖凝胶电泳技术检测152例健康人及71例II型糖尿病患者APOA5-1131T/C基因型及等位基因频率分布,同时采用生化方法测定所有研究对象的血脂、血糖和胰岛素水平。结果显示:糖尿病组APOA5-1131C等位基因频率显著高于对照组(0.430 vs 0.296,  $P = 0.006$ )。CC纯合子患糖尿病的风险是TT纯合子的3.75倍( $OR = 3.75$ , 95%  $CI: 1.57 \sim 8.92$ ),且经Logistic回归分析,校正年龄、BMI和血浆HDL-c、LDL-c及ApoB水平等其他混杂因素影响后,这种差异仍具有显著性意义( $OR = 2.70$ , 95% $CI: 1.24 \sim 5.86$ )。糖尿病组C等位基因携带者TG水平显著高于非C等位基因携带者( $P < 0.01$ ),TC水平和LDL-c水平亦明显升高( $P < 0.05$ )。但是在两组中,不同基因型患者胰岛素抵抗相关指标均无显示差异。提示APOA5-1131T/C单核苷酸多态性对人群血浆TG水平有影响,-1131C等位基因与血浆TG、TC和LDL-c水平增高有关,但是与糖尿病患者胰岛素相关指标无关;APOA5-1131C等位基因可能与人群糖尿病的发生相关联。

关键词 [载脂蛋白A5基因\(APOA5\)](#) [单核苷酸多态性\(SNP\)](#) [甘油三酯\(TG\)](#) [胰岛素抵抗\(IR\)](#)

分类号

## Association of apolipoprotein A5 gene -1131T/C polymorphism with lipid metabolism and insulin resistance in patients with type II diabetes mellitus

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### Abstract

<P> The purpose of this study was to explore the frequency of apolipoprotein A5 (<EM>APOA5</EM>) -<EM>1131T/C</EM> polymorphism in Zhenjiang and its effects on lipid metabolism and insulin resistance in type II diabetes mellitus(DM) patients. The genotypes of<EM> APOA5 -1131T/C</EM> polymorphism were determined in 152 healthy individuals and 71 type II DM patients by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). Serum levels of lipids, glucose and insulin in these subjects were also estimated by biochemical methods. The frequency of the <EM>APOA5-1131C </EM>allele in DM patients was significantly higher than that of the control group (0.430 vs 0.296, <EM>P </EM>= 0.006). When compared with the<EM> TT</EM> genotype, <EM>CC </EM>homozygotes had a significantly increased DM risk (<EM>OR</EM>=3.75, 95% <EM>CI</EM>: 1.57-8.92). In the DM group, the serum levels of triglyceride (TG) of <EM>C</EM> carriers (<EM>TC</EM>+<EM>CC</EM>) were significantly higher than those of non-C carriers (<EM>TT</EM>) (<EM>P</EM><0.01), and serum levels of total cholesterol (TC) and low density lipoprotein cholesterol(LDL-c) in subjects with the <EM>CC</EM> genotype were also significantly higher than those with the <EM>TT</EM> genotype (<EM>P</EM> < 0.05). However, there was no significance in profiles of insulin resistance in various genotypes in both groups. The APOA5 single nucleotide polymorphism was associated with serum TG level in the population. The -<EM>1131C</EM> allele contributed to the increase of serum levels of TG, TC and LDL-c and but had no effect on profiles of insulin

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resistance in DM patients. The <EM>APOA5 -1131C</EM> allele may be associated with increased susceptibility to type II diabetes mellitus. </P>

**Key words** [apolipoprotein A5 gene \(APOA5\)](#) [single nucleotide polymorphism \(SNP\)](#) [triglyceride \(TG\)](#) [insulin re-sistance \(IR\)](#)

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