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Association of peroxisome proliferator-activated receptor-delta polymorphisms with sugar metabolism indices and tumor necrosis factor alpha level

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ABSTRACT. This study aims to investigate the association of peroxisome proliferator-activated receptor (PPAR) delta -87T/C polymorphism with several sugar metabolism indices and tumor necrosis factor α (TNF α) level. The body mass index (BMI), waist size, and levels of fasting plasma glucose, serum lipid, fasting insulin, TNFα, and PPAR delta -87T/C of 286 patients with type 2 diabetes mellitus (T_2DM) and 158 subjects with normal fasting glucose (NFG) were measured in a Dalian population. The distribution of genotypic frequencies between T_2DM and NFG were not significantly different ($\chi^2 = 0.012$, P = 0.994). BMI, fasting blood glucose (FBG), homeostasis model assessment-estimated insulin resistance (HOMA-IR), triglyceride, and TNFα levels were significantly different among different T_2DM genotypes. HOMA-IR and FBG were significantly different among different NFG genotypes. The PPAR delta -87T/C polymorphism is known to be closely related with glucose levels and lipid metabolism. A close relationship was also found between

HOMA-IR and TNFα levels and HOMA-IR and FBG in T_2DM and NFG, respectively.

Key words: Peroxisome proliferator-activated receptor delta; Type 2 diabetes mellitus; Polymorphism

