Association of IL-1α gene polymorphism with susceptibility to type 1 diabetes in Chinese children

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ABSTRACT. The interleukin-1α (IL-1α) gene appears to play a role in the pathogenesis of type 1 diabetes (T1D). Therefore, the aim of this study was to investigate the contribution of the IL-1 rs1800587 gene polymorphism to susceptibility to T1D in Chinese children. This case-control study included 332 Chinese children with T1D and 332 healthy controls. Identification of genetic variants of rs1800587 in the IL-1α gene was performed by polymerase chain reaction amplification. The IL-1α rs1800587 polymorphism demonstrated a significant association with T1D risk. The allelic frequency significantly differed between the T1D and control groups [odds ratio (OR) = 0.7; 95% confidence interval (CI) = 0.52-0.86; P = 0.002]. Furthermore, significant differences were observed in the dominant model (CC/CT + TT; OR = 0.6; 95%CI =

0.46-0.85; P = 0.003). In T1D patients, the prevalence of hypertension in T allele carriers was 4.2-fold higher than that in C allele carriers, (95%CI = 2.67-6.58; P < 0.001). In conclusion, the present study found evidence of a significant association between the rs1800587 polymorphism in the IL-1α gene and T1D.

Keywords: Interleukin-1α; Rs1800587; Type 1 diabetes; Polymorphism