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The Association Between COL4A3 Variant RS55703767 With the Susceptibility to Diabetic Kidney Disease in Patients with Type 2 Diabetes Mellitus: Results from the Cohort Study

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Abstract : Aims: A genome-wide association study (GWAS) reported that patients with the rs55703767 minor allele in collagen type IV α3 chain encoding gene COL4A3 showed protection against diabetic kidney disease (DKD) in type 1 diabetes mellitus (T1DM). However, the role of rs55703767 in type 2 DKD has not been elucidated. The aim of the current study was to investigate the association between COL4A3 variant rs55703767 and DKD risk in Chinese patients with type 2 diabetes mellitus (T2DM). Methods: This nested case-control study was performed on 1311 patients who had T2DM for at least 10 years, including 580 with DKD and 731 without DKD. We detected the genotypes of all patients by TaqMan SNP Genotyping Assay and analyzed the association between COL4A3 variant rs55703767 and DKD risk. Results: Genetic analysis revealed that there was no significant difference between T2DM patients with DKD and those without DKD regarding allele or genotype frequencies of rs55703767, and the effect of this variant was not hyperglycemia specific. Conclusion: Our findings suggested that there was no detectable association between the COL4A3 variant rs55703767 and the susceptibility to DKD in the Chinese T2DM population.

Keywords : collagen type IV α3 chain, gene polymorphism, type 2 diabetes, diabetic kidney disease
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