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Correlation between polymorphisms of hypoxia-inducible factor-1α Pro582Ser and type 2 diabetic nephropathy

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ABSTRACT. We examined the correlation between gene polymorphisms in hypoxia-inducible factor-1α (HIF-1α) Pro582Ser and type 2 diabetic nephropathy (DN). A total of 244 subjects with type 2 diabetes were recruited. The 1285-bp locus polymorphism of HIF-1α exon was detected using polymerase chain reaction-restriction fragment length polymorphism. C/T single nucleotide polymorphisms were detected at the site of 1285 bp of the HIF-1α exon, from a proline to a serine (Pro582Ser). The frequency of CT heterozygotes was significantly higher in DN patients than in diabetes patients ($P < 0.05$). Logistic regression analysis showed that high hemoglobin A1c and low high-density lipoprotein-cholesterol were risk factors for DN, and Pro582Ser was excluded in the equation. HIF-1α Pro582Ser single nucleotide polymorphisms may be correlated with type 2 DN, which needs further exploration.

Key words: Diabetic nephropathy; Gene polymorphism; Hypoxia-inducible factor-1α

