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Interleukin-4 Polymorphism in Egyptian Patients with Type-2 Diabetic Nephropathy

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Abstract

The effects of environmental and genetic factors on the development of diabetic complications are well-documented. The roles of inflammatory processes on the development of these complications including diabetic nephropathy were established. Cytokines have great roles in the development of diabetic nephropathy. Polymorphism in the 590-region of interleukin-4 gene is associated with the regulation of expression of this gene. During these investigations, peripheral blood was collected from 100 patients with type-2 diabetes mellitus with nephropathy and 100 diabetics without nephropathy (control). DNA was extracted and a polymerase chain reaction restricted fragment length polymorphism (PCR-RFLP) technique was performed to examine polymorphisms in the -590 region of the IL-4 gene. Obtained results revealed that the frequency of allele T was higher among patients with diabetic nephropathy than among the control. In addition, most of patients with allele T had overt albuminuria, higher blood pressure, renal dysfunction and dyslipidemia than patients with allele C. In conclusion, these findings suggest that patients with allele T are more liable to develop diabetic nephropathy with most of the micro- and macro-vascular complications. [Mohamed M. El-Shabrawi, Nervana M. K. Bayoumy and Hamdi H. Hassan Interleukin-4 Polymorphism in Egyptian Patients with Type-2 Diabetic Nephropathy] Life Science Journal,. 2011; 8(3):577-582] (ISSN: 1097-8135).