

Association between cytokine gene polymorphisms and diabetes in Jordanian population: a case-control study

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Abstract

Diabetes Mellitus (DM) is a multifactorial disorder in which genetic factors play a major role. Cytokines are one of the candidate genes affecting DM. Single nucleotide polymorphisms (SNPs) in cytokines have been studied extensively in different populations to determine their association with increased predisposition to DM. The aim of this study was to evaluate the frequency of SNPs in the cytokine genes TNF- α , TGF- β , IL-6, IL-10, and INF- γ in Jordanian DM patients in comparison to controls and their association to DM using PCR-SSP technique. Our findings showed that the IL-10-1082 G/G genotype (P=0.02) and the TGF- β 1 codon 25*G allele (P<0.01) may be considered risk factors for T2DM susceptibility. In addition, the IFN- γ -874*A allele (P=0.04) might be a risk factor for T1D predisposition. Our findings may help in the early detection of DM which would in turn help in undergoing the needed preventative measures to delay the onset of DM.

Key words: Cytokines, Diabetes Mellitus, Jordan, Single nucleotide Polymorphisms.