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SINGLE NUCLEOTIDE POLYMORPHISMS AT ERYTHROPOIETIN, SUPEROXIDE DISMUTASE 1, SPLICING FACTOR, ARGININE/SERIN-RICH 15 AND PLASMACYTOMA VARIANT TRANSLOCATION GENES ASSOCIATION WITH DIABETIC NEPHROPATHY

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A number of genes have been identified in diabetic nephropathy. Association between diabetes-associated nephropathy and polymorphisms in the erythropoietin (EPO) gene, variants in the superoxide dismutase 1 (SOD1) gene and plasmacytoma variant translocation 1 (PVT1) gene have been identified. The EPO, SOD1:SFRS15 and PVT1 genes were genotyped using the single nucleotide polymorphism (SNP) technique in 38 diabetic nephropathy patients (Group 1) compared with 64 diabetic type 2 subjects without nephropathy (Group 2) at the Mubarak Alkabeer Hospital, Kuwait. The frequency of the risk allele T of the EPO (rs1617640) gene was high in both groups (0.96 in Group 1 and 0.92 in Group 2). Similarly, SNPs of the PVT1 (rs2720709) gene showed a higher frequency of the risk allele G in both groups (0.70 in the Group 1 and 0.68 in Group 2). Although the frequency of the risk allele A was higher than the frequency of the non-risk allele C of the SOD1:SFRS15 gene in both groups, the lowest probability value was observed in those gene SNPs (P = 0.05). We observed that the A allele of the SOD1:SFRS15 gene (rs17880135) was more frequently present in Group 1 (0.75) compared with Group 2 (0.62). Susceptibility to diabetes-associated nephropathy is partially mediated by genetic predisposition, and screening tests may open the gate for new therapeutic approaches.

Biography

Maisaa Al-Wohaib is currently working as an Assistant Professor in the departmennt of Medical Laboratory Sciences, Health Science Center, Kuwait.

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