

The role of TNF- α G-308A promoter polymorphism in glycemic control in Type 2 diabetes patients.

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Abstract: BACKGROUND: TNF- α polymorphisms were shown to be associated with insulin resistance and diabetes development and complications. AIM: To investigate the association between glycemic control in Type 2 diabetes patients and TNF- α G-308A single nucleotide polymorphism (SNP). METHODS: This was a cross-sectional observational study, where diabetes patients from both genders (170 male and 185 female) were enrolled in the study. Patients were divided into two groups: good glycemic control (n = 158) and poor glycemic control (n = 197). Genotyping of TNF- α G-308A SNP was carried out using restriction fragment length polymorphisms-polymerase chain reaction. RESULTS: The results showed that TNF- α G-308A SNP is strongly associated with glycemic control in type 2 diabetes patients. Patients with the AA and AG genotypes had better glycemic control than those with GG genotype (P < 0.01). Other parameters that impacted glycemic control include duration of the disease (P < 0.01) and response to insulin therapy (P < 0.01). However, no contribution for gender or statins use to glycemic control was observed (P > 0.05). CONCLUSION: TNF- α G-308A SNP might modulate glycemic control among type 2 diabetes patients.