Abstract

Objectives: the aim from our study is to increase our knowledge about Vitamin D Receptor Polymorphisms (Fok1-Bsm1-Taq1) and its relationship with Type 2 Diabetes in Egyptian Patients.

Methods: Data were collected on 50 patients had controlled and uncontrolled type 2 diabetes (their age ranged from 40-60 years and diabetes duration more than 4 years ) and 50 healthy subjects formed the control group. Serum 25(OH)D3 level was assessed. Genotyping for the VDR (FokI, BsmI and TaqI) gene polymorphisms were performed by RFLP/PCR for patients and controls.

Results: vitamin D deficiency is prevalent in our Egyptian type 2 DM patients and the mean level of vitamin D is a more sensitive but less specific predictor for detection of type 2 DM. There were no statistically significant correlations between the mean of vitamin D level and age, disease duration, BMI, waist circumference, s.CA, s.PO4, glycemic and lipid parameters. The mean level of vitamin D was lowest in group of patient treated with insulin. There were statistically significant differences between type 2 DM patients and controls as regard FokI genotypes and alleles but not with BsmI and TaqI genotypes. There were statistically significant associations between VDR BsmI polymorphism and disease duration. On the other hand, no significant association between the VDR FokI, BsmI and TaqI polymorphisms and the different vitamin D status, glycemic or lipid parameters of type 2 DM patients. Also, we found that there were no statistically significant differences for detection FokI, BsmI and TaqI genotypes mutation by using Vitamin D level.

Conclusion: vitamin D deficiency has prevailed in Egyptian population with T2DM. Moreover, our study documents a correlation between VDR FokI gene polymorphisms and susceptibility to T2DM in the Egyptian population.
Keywords: type 2 DM, 25(OH) D3 and vitamin D receptor (Fok1, BsmI and TaqI) genotypes and alleles.