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 , Bsm1 and Taq1) 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 Bsm1 and Taq1 genotypes. There were statistically significant associations between VDR BsmI polymorphism and disease duration . On the other hand , no significant association between the VDR FokI , Bsm1 and Taq1polymorphisms 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 , Bsm1 and Taq1 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 *Fok*I gene polymorphisms and susceptibility to T2DM in the Egyptian population.

Keywords: type 2 DM , 25(OH) D3 and vitamin D receptor (Fok1,BsmI and Taq1) genotypes and alleles.