

CHAPTER 34

MEDICAL SCIENCES MEDICINE

Doctoral Theses

01. SINGH (Vinay)
Study of Vitamin D Status, Vitamin D Receptor (VDR) Gene Polymorphism and Cardiovascular Disease in Type 2 Diabetes Mellitus.
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Abstract
(Not Verified)

BACKGROUND: People across the globe are Vitamin D deficient (<20 ng/ml). Evidence indicates that diabetic patients have insufficient levels of Vitamin D and they are more prone to develop coronary artery disease. **AIMS AND OBJECTIVES:** To find out the Vitamin D level in type 2 diabetes patients and its association with VDR gene polymorphism, CAD diabetic and diabetes. **MATERIAL AND METHODS:** This cross sectional study included 324 clinically confirmed type 2 diabetes patients (age > 50 years), which were equally divided into 2 groups CAD diabetic and diabetic. VDR gene polymorphism was determined by polymerase chain reaction and restriction fragment length polymorphism (PCR-RFLP) using restriction enzymes FokI. **RESULTS:** BMI (p=0.0352), waist circumference (p=0.0001), duration of diabetes (p=0.0001), HbA1c (p= 0.0446) was found to be statistically significant amongst both groups. A perfect negative correlation was observed in CAD diabetic (r= -0.011) and diabetic (r= -0.079) group with respect to Vitamin D and HbA1c. The mean Vitamin D level was found to be lower in the CAD Diabetic (12.69 ± 6.3) group when it was compared with the Diabetic (16.05 ± 7.37) group and the difference between the group was statistically significant(p=0.001). The association of Vitamin D levels with the genotype of FokI polymorphism in both the groups showed that patient with TT genotype had the lowest level of Vitamin D followed by heterozygous (TC) genotype. Homozygous mutant (CC) genotype was found to be associated with maximum Vitamin D levels. **CONCLUSION:** Vitamin D deficiency was more prevalent in CAD diabetic (87%) patients than the diabetics (81%). More number of Vitamin D deficient patients in both the groups had TT genotype. TT genotype was more common in a CAD diabetic group than in the diabetic group.

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