VARIETY OF VITAMIN D RECEPTOR (VDR) GENE POLYMORPHISMS AND SERUM LEVELS OF VITAMIN D IN PATIENTS WITH TYPE 1 DIABETES

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BACKGROUND AND AIM:

Currently relationship between the decrease in vitamin D (VD) levels and the formation of bone pathology has established. The presence of certain vitamin D receptor (VDR) polymorphisms has been suggested to be associated with the serum vitamin D. Therefore, the aim of study was to assess the association between VDR single nucleotide polymorphisms (SNPs) in type 1 diabetic patients and serum VD.

SUBJECTS AND METHODS:

66 T1D patients (28 men and 38 women)

Data are expressed as mean ± SD

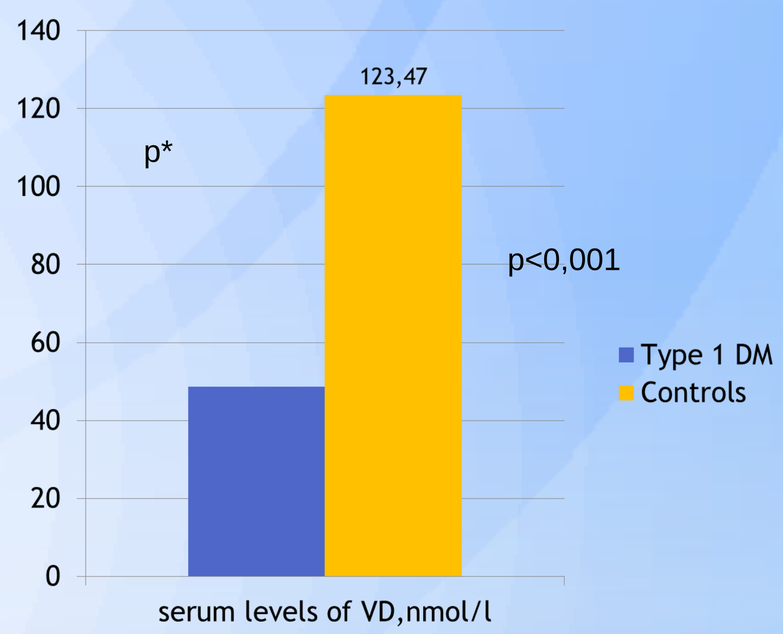
Age (yrs)	31,23 ± 8,41
Disease duration (yrs)	13,40 + 7,41
Weight, kg	69,25 + 11,59
Height, sm	170,67 + 8,69
BMI (kg/m2)	23,4 + 3,15
Waist, sm	80,74 + 9,5
Age of T1D onset (yrs)	17,82±7,95
HbA1c	8,25+0,95

The research involved:

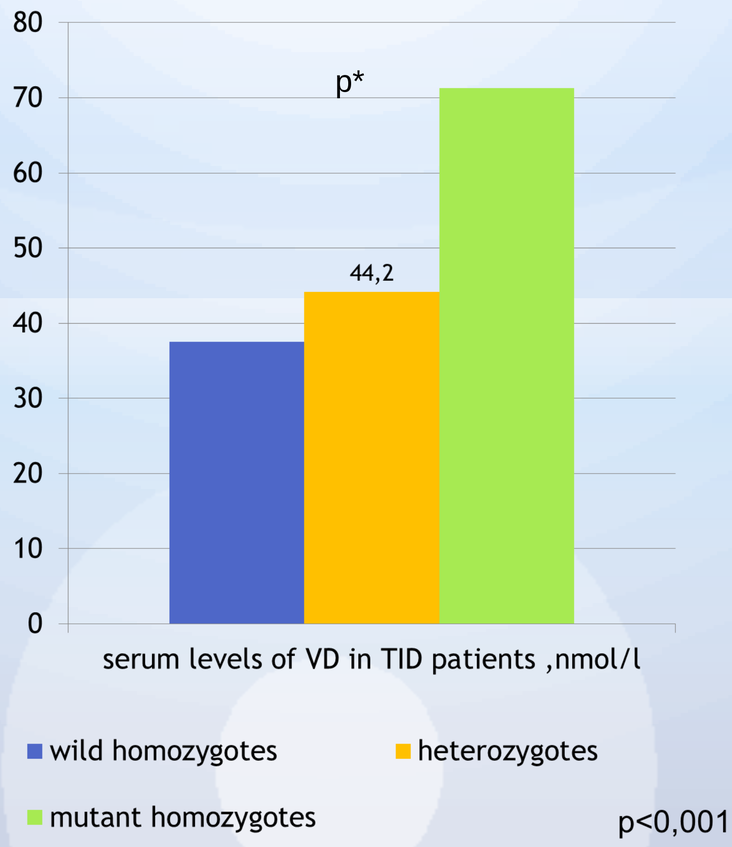
- ✓ Anthropometry of patients
- ✓ General clinic examination
- ✓ Biochemical analysis:
  - Cerum Vitamin D
  - HbA1
  - Ca total, Ca++, P
  - C-terminal telopeptide (CTX)
- ✓ VDR genotyping analysis (VDR-FOKI - FokI (BseGI), VDR-ApaI – ApaI)

RESULTS

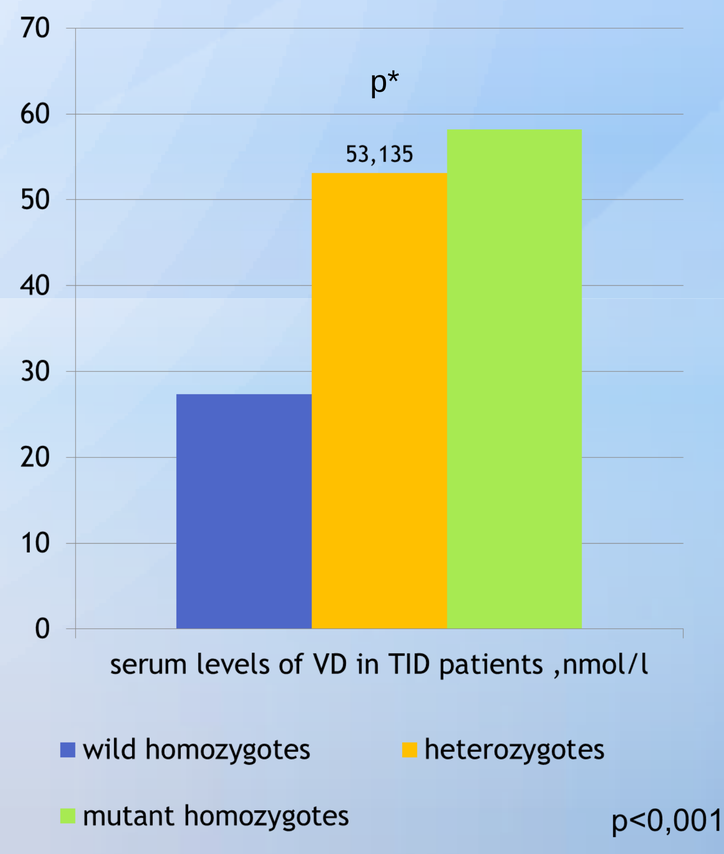
- ✓ There was a substantial decrease in serum levels of VD in type 1 diabetic (TID) patients compared with the control (48,66±6,13 vs. 123,47±15,49 nmol/l, p<0.001).



There were significant differences in the levels of VD in patients with VDR-ApaI SNPs: wild homozygotes 37,5±8,12, in heterozygotes 44,2±12,35, in mutant homozygotes 71,29±16,36 nmol/l, p<0.001. Similar data were obtained among carriers individuals with VDR-FokI SNPs (27,32±4,89 vs. 53,135±4,67 vs. 58,2±7,7 nmol/l, p<0,001).



patients with VDR- ApaI SNPs



patients with VDR-FokI SNPs

CONCLUSIONS:

The results of the study reflect a significant decrease serum VD in patients with type 1 diabetes and VDR gene polymorphism's influence on these processes to need further study