

Blood level of Vitamin D and metabolic control of type 1 diabetes mellitus

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Background: Determination of the blood level of HbA1C in patients with type 1 diabetes with different level of vitamin D is the subject of this study. **Patients and Method:** In 339 patients with type 1 DM, 192 cases (99 males, 93 females) randomly enrolled in the study. The mean \pm standard deviation (SD) of age in males was 9 ± 4.4 yr and in females was 8.3 ± 4.3 yr. Their HbA1C and 25(OH)D3 were measured by HPLC method. Patients were divided according to vitamin D blood level into 4 groups: group 1: ≤ 10 ng/mL, group 2 : 11 – 20 ng/mL, group 3 : 21 – 30 ng/mL, group4 : > 30 ng/mL and HbA1C blood level was compared in different vitamin D groups.

Results: Mean \pm SD of HbA1C in group 1 and group 2 was significantly higher than group 3 and group 4 but there was no significant difference between group 1 and 2 and also between group 3 and 4. As are shown in Table 1 and Figure 1

Table 1: Comparison of HbA1C in different Vitamin D groups

Groups with different levels of Vit. D (ng/mL)	HbA1C (Mean \pm SD)	P Value between Vit. D groups	
1 (≤ 10)	10.2 \pm 2.3	1 & 3: 0.001	1 & 2 NS
		1 & 4: 0.024	
2 (11 – 20)	9.7 \pm 2.3	2 & 3: 0.003	
		2 & 4: 0.045	
3 (21 – 30)	8.2 \pm 1.6	3 & 4: NS	
4 (> 30)	8.8 \pm 2.4		

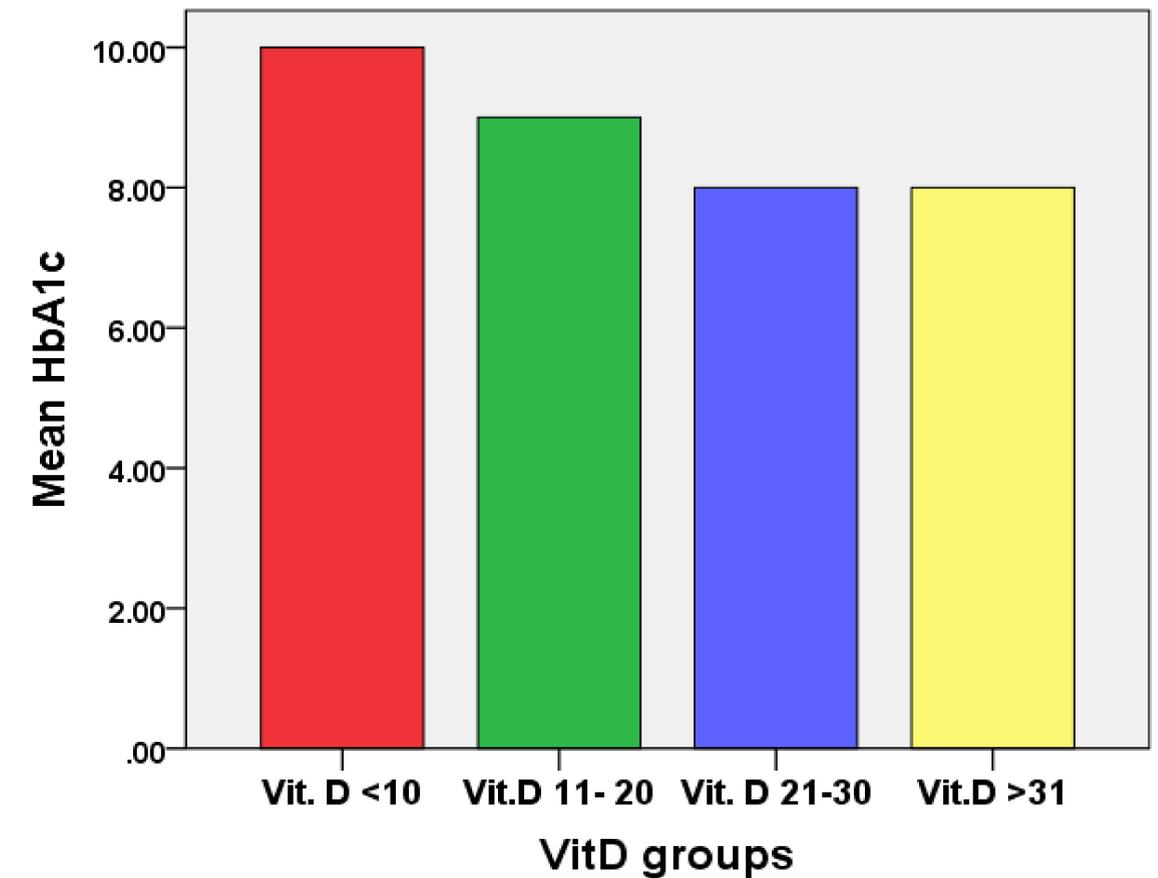


Figure 1: The mean of HbA1C in different Vit. D groups

Conclusion: Vitamin D level more than 20 is accompanied by better metabolic control of type 1 diabetes mellitus.