

25-hydroxy Vitamin D Levels and Relationships Between 25-hydroxy Vitamin D and Glycemic Status

Sumru Savaş, Zeliha Fulden Saraç, Pelin Tütüncüoğlu*

Geriatrics Section, Internal Medicine Department, Ege University, School of Medicine, İzmir, Turkey

*İzmir Katip Celebi University, Atatürk Education and Research Hospital, Endocrinology and Metabolism Department, İzmir, Turkey

Abstract

Objective: It was found that vitamin D has effect on insulin secretion and insulin sensitivity as well as bone health. The aim of the study; 1. to determine the 25-hydroxy vitamin D (25-OH D) levels in elderly with type 2 diabetes. 2. to assess the relationships between 25-OH D levels and fasting blood glucose (FBG) and postprandial blood glucose (PBG) and HbA1c levels.

Material and Methods: One hundred fifty five diabetic patients ≥ 65 years of age (mean age= 72.4 \pm 6.2 years (127 female, 28 male), were enrolled in the study. Demographic characteristics, 25-OH D, biochemical tests were evaluated retrospectively.

Results: Mean level of 25-OH D was found to be 37.9 \pm 5.1 ng/mL. 25-OH D levels were <30 ng/mL in twenty seven percent of these patients. Mean levels of FBG and PBG and

HbA1c were 149.5 \pm 14.5 mg/dL, 227.0 \pm 23.9 mg/dL and 8.2 \pm 1.8%, respectively. There was a negative correlation between 25-OH D levels and PBG ($r=-0.200$, $p=0.02$) in patients. In patients who had 25-OH D levels below 30 ng/mL, mean levels of 25-OH D correlated negatively with FBG ($r=-0.700$, $p=0.0001$) and with PBG ($r=-0.200$, $p=0.02$) and with HbA1c ($r=-0.450$, $p=0.001$). In diabetic elderly who had 25-OH D levels ≥ 30 ng/mL; there were no correlations between 25-OH D levels with FBG and PBG and HbA1c.

Conclusion: Mean levels of 25-OH D were 37.9 \pm 5.1 ng/mL in the elderly with type 2 diabetes. There were negative correlations between mean levels of 25-OH D and fasting blood glucose and postprandial glucose and HbA1c in diabetic elderly who had 25-OH D levels below 30 ng/mL.