

Vitamin E levels in patients with controlled and uncontrolled Type 2 diabetes mellitus

Abstract

Introduction

Diabetes type 2 associates with increased oxidative stress and reduced antioxidant. Vitamin E supplementation reduces oxidative stress in diabetic patients. Also, some studies have shown that vitamin E enhances insulin sensitivity and improves lipid profile. Given to the above and the effect of vitamin E supplementation in patients with diabetes, we intended to measure the level of this vitamin in these patients to assess its relationship in control of patients' diabetes by designing present study.

Material and Methods

This is a descriptive and cross-sectional study and carried out on 186 patients with diabetes type 2 diagnosis. The levels of HbA1C (measured by HPLC method), TG, cholesterol, HDL, LDL and Cr were measured, and given to that the level of HbA1C lower than 7 (controlled group) and or more than 7 (uncontrolled group), patients were divided in two groups. Then the patients' blood sample was taken and the level of vitamin E (using HPLC) was measured. Finally, we designed a check list involved questions such as age, sex, weight, height, number of suffering years, being rural or urban and their diet (based on standard questionnaires) and information of each patient associated with measured vitamin E level were entered into the check list and after that were analyzed data.

Results

In this study 186 patients with diabetes were assessed that 69.3% of them were women and the average age of all patients was 53.33 years. In this study was observed there was no direct correlation between the level of cholesterol ($P=0.284$), LDL ($P=0.538$) and HDL ($P=0.362$) with controlled DM II in patients while in uncontrolled diabetic the triglyceride levels was more than those with controlled blood sugar significantly ($P=0.046$). The average vitamin E level in patients was 1488.6 ± 692.2 (nmol/L), its lowest level 114.4 (nmol/L) and the highest level was 6235 (nmol/L). The analysis of data showed that there is no significant relationship between vitamin E level among controlled and uncontrolled diabetic patients ($p=0.214$).

Conclusion

The results of this study show that the vitamin E level no significant difference between control and non-control diabetic patients.

Keywords: vitamin E, diabetes mellitus type 2, antioxidant