Original Paper

Effects of vitamin E supplementation on activity of serum Paraoxonase, SOD, GPX enzymes and lipid profiles in beta major thalassemia patients

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Abstract

Background and Objective: In pathogenesis of beta major thalassemia, tissue damage is occurring due to oxidative stress. The present study was designed to evaluate the effects of vitamin E supplementation on serum Paraoxonase, SOD, GPX enzyme activity and lipid profiles in beta major thalassemia patients.

Materials and Methods: In this clinical trial study, Sixty (25 males, 35 females) beta major thalassemia patients with age \(\geq 18\) years who had criterias to enter the study, were selected randomly in two groups. The patients in interventional group, vitamin E at a dose of 400 mg/day were given for three months, with no supplementations in control group. The enzyme activities of paraoxonase, SOD, GPX and lipid profiles (LDL-c, HDL-c, triglyceride, total Antioxidant Capacity) were measured prior and after 3 months in both case and control groups. Data analyzed by using paired t-test.

Results: Significant increases in serum levels of vitamin E, Paraoxonase activity, HDL cholesterol (P<0.001), BMI (P\(\leq 0.001\)) and a significant reduction in GPX activity (P<0.05) were observed in cases compared to controls.

Conclusion: The vitamin E supplementation may be useful in reducing oxidative stress and lipid profiles in beta major thalasemic patients.

Keywords: Vitamin E, Beta major thalassemia, Paraoxonase-1, SOD, GPX, Lipid profiles

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