

## 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 thalassemic patients.

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

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