

**EFFECT OF VITAMIN C SUPPLEMENTATION ON OXIDATIVE STRESS AND LIPID PROFILES IN HEMODIALYSIS PATIENTS**

**S. Eghtesadi**<sup>1</sup>, H. Abdollahzad<sup>1</sup>, I. Nourmohammadi<sup>2</sup>, M. Khadem-Ansari<sup>3</sup>, H. Nejad-Gashti<sup>4</sup>, A. Esmailzadeh<sup>5</sup>

<sup>1</sup>Nutrition, <sup>2</sup>Biochemistry, Iran University of Medical Sciences, Tehran, <sup>3</sup>Biochemistry, Urmia University of Medical Sciences, Urmia, <sup>4</sup>Nephrology, Iran University of Medical Sciences, Tehran, <sup>5</sup>Nutrition, Isfahan University of Medical Sciences, Isfahan, Iran

**Objectives:** This study aims to assess the effects of vitamin C supplementation on lipid profiles as well as markers of lipid peroxidation among hemodialysis patients.

**Methods:** In this double-blind randomized controlled clinical trial, a total of 42 patients were randomly assigned to vitamin C (n=21) or placebo groups (n=21). Patients in vitamin C group consumed 250 mg vitamin C and those in placebo group were given placebo every other day as long as 12 weeks. Fasting blood samples were collected at baseline and the end of the study to measure serum concentrations of lipid profiles as well as malondialdehyde (MDA) and vitamin C.

**Results:** After supplementation with vitamin C, serum vitamin C levels increased significantly in vitamin C group as compared to baseline (P=0.033). There was also a significant difference in serum vitamin C levels between vitamin C and placebo groups (P=0.001). Serum MDA concentrations was marginally decreased comparing before and after taking supplements in vitamin C group (P=0.057). A significant difference was also seen in mean MDA changes between vitamin C and placebo groups (P=0.002). There was a significant difference in serum levels of total cholesterol (P=0.005), LDL-C (P=0.012), and LDL-C/HDL-C ratio (P=0.018) between two groups, however, serum triglyceride and HDL-C levels were not significantly different.

**Conclusion:** Every other day supplementation with 250 mg vitamin C for 12 weeks increases serum vitamin C, decreases MDA levels and improves lipid profiles in hemodialysis patients.