Effect of vitamin E and C supplements on lipid peroxidation and GSH-dependent antioxidant enzyme status in the blood of women consuming oral contraceptives.

Zal F, Mostafavi-Pour Z, Amini F, Heidari A.

Reproductive Biology Group, Graduate School of Biomedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran.

BACKGROUND: Oral contraceptives (OCs) may affect oxidative stress status. We aimed to assess whether supplementation with vitamins E and C reduced this OC effect.

STUDY DESIGN: One hundred twenty healthy female individuals were divided into three groups: A, control; B, untreated OCU (OC users); and C, treated OCU (OC users with vitamin E and C supplementation). In all cases, plasma glutathione peroxidase (GPx) and glutathione reductase (GR) activities and malondialdehyde (MDA) level were determined.

RESULTS: Significant increases were found in the plasma MDA level, and activities of GPx and GR in plasma were decreased in Group B compared to the control group. Supplementation with vitamin C and E significantly increased the activity of GPx and GR activity, and reduced plasma MDA levels in Group C (p<.05).

CONCLUSIONS: These data suggest that low-dose OCs, by enhancing the stress oxidative and lipid peroxidation, may represent a potential cardiovascular risk factor, and the use of vitamins E and C may be beneficial in ameliorating this side effect of OCs.

PMID: 22494786