

Effect Of Dehydroepiandrosterone On Lipid Peroxidation And On The Enzymes Of Antioxidative System In Type 2 Diabetic Patients With Nonalcoholic Steatohepatitis

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Background : Dehydroepiandrosterone (DHEA), is a steroid hormone. It is naturally synthesized by the body and performs a number of roles including as strong antioxidant and free radical scavenger can play important, protective role in disease in which oxidative damage is a significant component e.g.: in coronary heart disease, neoplastic disease, neurodegenerative disease. The aim of our study was determination of the effect of dehydroepiandrosterone (DHEA) supplementation on malonyldialdehyde (MDA) concentration and activity of: superoxide dismutase (SOD), glutathione peroxidase (GSH-Px), catalase (CAT), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) in type 2 diabetic patients with nonalcoholic steatohepatitis (NAFLD).

Methods : The study included 68 type 2 diabetic patients with CAD at the mean age of 64.5 ± 7.5 years. Patients were divided into subgroups (diabetics, nondiabetics, smokers, nonsmokers). Each patient received 5 mg DHEA for the mean of 96.3 ± 14.2 days. The material of study was blood, taken at 08.00 am at the beginning of the study and after 3 months of the DHEA administration. MDA concentration was determined

Results : There were found statistically significant differences in SOD activity in patients with diabetes mellitus comparison to non- diabetes mellitus patients ($P=0.05$) and higher MDA concentration in smokers comparison to non-smokers ($P=0.001$). After 3 months of DHEA treatment increase GSH-Px ($P=0.005$), increase SOD activity in non-diabetes mellitus group ($P=0.002$) and in non-smokers group ($P=0.05$) were found. In addition, decrease of MDA concentration and AST and ALT activity were observed ($P=0.005$), in patients with diabetes mellitus.

Conclusions : The antioxidative properties of DHEA were confirmed in the study. The supplementation of DHEA may be useful as a supportive therapy in type 2 patients with NAFLD.

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