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ORIGINAL ARTICLE

ASSESSMENT OF OXIDATIVE STRESS AND ANTIOXIDANT STATUS IN TYPE 1 DIABETES MELLITUS

Abstract

Increased oxidative stress appears to be a risk factor for insulin resistance, dyslipidemia, β -cell dysfunction, impaired glucose tolerance, and, eventually, diabetes mellitus. The majority of research shows that oxidative stress plays a role in the etiology of diabetes through changes in enzymatic systems, lipid peroxidation, decreased levels of vitamin C, and reduced glutathione metabolism. **Objectives:** the study was conducted to evaluate biomarkers of oxidative stress such as serum malondialdehyde (MDA), myeloperoxidase (MPO), catalase (CAT), vitamins (C, E), nitric oxide (NO), reduced glutathione (GSH) levels and a lipid profile in newly diagnosed type I diabetics (IDDM). **Methods:** Patients are selected by simple randomization after professional diagnosis based on clinical examination and laboratory tests in a case-control study. This study included 24 newly diagnosed type I diabetics and 20 as a control group. **Results:** Newly diagnosed IDDM patients showed significantly higher MDA, MPO, TC, LDL, TC, TG, and AIP than the control group. The diabetic group also showed a significant decrease in CAT, GSH, HDL, NO and vitamins (E and C) when compared to healthy subjects. **Conclusion:** This study demonstrated that patients with type 1 diabetes have a disturbance in oxidant/antioxidant status and lipid profile.