Lipid peroxidation and antioxidant protection in patients with papulo-pustular rosacea

Khvoryk D., Yarmolik A*.

Department of Dermatovenereology, Grodno State Medical University, Grodno, Belarus

ABSTRACT

Purpose: To examine lipid peroxidation, antioxidant protection and L-arginine-NO – system in patients with papulo-pustular rosacea.

Materials and methods: The study included 128 women with papulo-pustular rosacea aged 40.1±0.99 years (range: 18-68 years). The patients were divided into three groups based on the severity of the symptoms: group I –patients with mild rosacea (n=42), group II – patients with moderate rosacea (n=49), group III – patients with severe rosacea (n=37). Indicators of lipid peroxidation and antioxidant protection were defined in all patients by a spectrophotometric method.

Results: The first group of patients showed a significant decrease in superoxide dismutase (SOD) and ceruloplasmin when compared to the control group. A significant increase in diene conjugates (DC), malondialdehyde (MDA), liposoluble antioxidants (retinol, α-tocopherol) and decrease in SOD, catalase and ceruloplasmin were observed in the second group. Patients in the third group had similar dynamics with a worsening of lipid peroxidation.

Conclusions: The changes in some parameters of lipid peroxidation and antioxidant protection were revealed in patients with papulo-pustular rosacea. The nature of these changes depends on the severity of the disease. Evaluation of the antioxidant imbalance may be informative to determine the understanding of the genesis of dermatosis and to study therapeutic strategy aimed at reducing the generation of reactive oxygen species (ROS), leading to a decrease in the capacity of the antioxidant defense.

Key words: rosacea, papulo-pustular subtype, etiopathogenesis, lipid peroxidation, antioxidant protection.