

## SOME INDICATORS OF ANTIOXIDANT DEFENSE SYSTEM IN CHRONIC KIDNEY DISEASE

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As a result of a number of exogenous and endogenous damaging factors the incidence and diagnosis of chronic kidney disease (CKD) is on the rise all over the world. It is believed that during CKD the intensity of lipid peroxidation processes is in the center of key pathogenic mechanisms against the decreased function of antioxidant defense system. The aim of the study was to study the correlation between dioxide, malondialdehyde and nitric oxide - which is a natural antioxidant in the serum of the kidneys with redox-glutathione, the main product of lipid peroxidation.

**Materials and Methods.** 80 patients with chronic kidney disease were examined. Diagnosis was verified on the basis of clinical, instrumental and laboratory research methods. The control group consisted of 20 people without any clinical and laboratory deviations in health. The concentration of reduced glutathione was determined by the Ellman (1959) method, the level of diene conjugates (the primary product of lipid peroxidation) was determined by the Gavrilov (1983) method, and malonic dialdehyde by the Matskushita (1988) method. The nitric oxide content was determined by the GRIESS reaction based on the analytical difference between the total nitrites and nitrates (Commerical kit Thermo Scientific, Pierce Biotechnology, Rockford, IL, USA). The correlation between the indicators was determined by the Spearman method.

**Results.** According to the results of the correlation analysis in chronic kidney disease, against the background of a decrease in the level of reduced glutathione in the peripheral blood, an increase in the concentration of nitric oxide and lipid peroxidation products relative to the control group is noted. A reliable positive correlation between the level of nitric oxide and the content of diene conjugates and malondialdehyde (respectively,  $r=0.74$ ;  $p<0.05$  and  $r=0.69$ ;  $p<0.05$ ) was revealed.

A negative correlation between an important indicator of antioxidant protection - reduced glutathione and lipid peroxidation products, as well as a positive correlation between endothelial damage index - nitric oxide and lipid peroxidation products revealed in chronic kidney disease indicates the possibility of using all these indicators in assessing the severity of this pathology and predicting long-term results.

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## CYTOKINES AND BONE TISSUE BIOMARKERS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Rheumatoid arthritis (RA) is characterised by inflammatory synovitis that causes joint cartilage and bone destruction and increases fracture risk through bone erosion and osteoporosis. Bone damage is localised to the periarticular cortical areas of inflamed joints in early RA, but osteoporosis extends to the diaphyses becoming generalised in advanced stages. Osteoporosis is considered as one of the most serious complications of RA, which determine the unfavorable course and prognosis of the disease. From 28 to 77% of patients with RA have osteopenic syndrome and osteoporosis. It is assumed that the development of rheumatoid inflammation and osteoporosis in RA has common