

Husarchuk A.G.

PARAMETERS OF ENDOTHELIAL DYSFUNCTION AND IMMUNE RESPONSE IN PATIENTS WITH RHEUMATOID ARTHRITIS WITH AND WITHOUT ISCHEMIC HEART DISEASE

*Department of propaedeutics of internal diseases
Bukovinian State Medical University*

In spite of achievements of medical science etiology of rheumatoid arthritis (RA) as an autoimmune disease remains unknown, where chronic erosive arthritis results in systemic lesions of the internal organs. Endothelial dysfunction (ED) is considered as a predictor of cardiovascular diseases (CVD), and it is one of the diagnostic criteria of early detection of atherosclerotic vascular lesions. Ischemic heart disease (IHD) as one of CVDs plays a leading role in ED pathogenesis in patients with RA.

The aim is to determine changes in endothelial dysfunction and immunological response in patients with rheumatoid arthritis with and without coronary heart disease. 151 patients with RA and IHD were examined and divided into 3 groups. 1 group - 60 patients with RA, 2 group - 30 patients with RA and IHD, 3 group - 61 patients with IHD. The control group included 22 patients. ED level was assessed by means of detection of NO-synthetase content in the blood with RA, as a final metabolite of NO_2^- and NO_3^- . The level of VEGF and CD28 in the blood serum was determined by means of immune-enzyme method.

The results of the study of the levels of metabolites NO_2^- and NO_3^- in the first and second groups showed their increased content. The content of nitrite ions (NO_2^-) in the blood was higher by 20.9% and 41.8%, respectively, for patients of the first and second groups; the content of nitrate ions (NO_3^-) in patients of the control group and the third group exceeded the values of healthy individuals by 16.9% and 29.2%, respectively. The highest content of nitrite ions (NO_2^-) is observed in middle-aged patients with both RA and coronary heart disease. With increasing age, the content of nitrite ions (NO_2^-) decreases and becomes even lower than that of healthy people (by 9.5% - for the 1st group, and by 26.7% - for the 2nd group).

Analysis of the content of VEGF in the blood for patients with different durations of the disease showed that the concentration of the studied protein grows larger with increasing duration of the disease. For patients from group 1 (RA), where the duration of the disease was up to 5 years, the VEGF content increased by 32.5% or up to 265.5 nmol/l compared with the control; with the duration of RA 5-10 years - an increase of 54.9% or up to 310.9 nmol/l, and with a duration of the disease over 10 years - the value increased by 94.5% to 389.9 nmol/l. For patients with a duration of RA over 10 years, a decrease in the studied index to 5.3 nmol / l was found (26.7% less for patients with a duration of RA up to 10 years). Analyzing the content of sCD28 in the samples, it was found that the maximum concentration was found in middle-aged patients, and the minimum (the difference was significant) - in the elderly.

It was found that at a young and middle age on the background of less pronounced ED and shorter duration of RA, the content of NO metabolites in the blood of patients increases significantly. With age, and concomitant coronary heart disease, against the background of prolonged RA, ED increases, while the mechanisms of synthesis of nitric oxide weaken so that the total content of NO metabolites becomes lower than in younger patients.

As the duration of the disease increases, the content of VEGF in the blood of patients increases, which, at the same time, did not show age dependence on RA and did not change further with concomitant coronary heart disease. Detected concentrations of sCD28 are higher in patients with less prolonged RA, and begin to decrease with increasing duration of the disease. Inflated rates in young and middle-aged patients make it possible to consider them as potential biomarkers of disease activity.