Biological Markers in Fundamental and Clinical Medicine. – Vol.3, №1. – 2019. ISSN 2570-5911 (Print); ISSN 2570-5903 (On-Line)
DOI: 10.29256/v.03.01.2019.escbm01-89

pathogenetic pathways, where the main role is given to the imbalance of pro- and anti-inflammatory cytokines. In this regard, the study of the effect of cytokines on bone formation processes and the state of bone mineral density continues to be the focus of attention of researchers.

**Materials and Methods.** In this research work was conducted a comprehensive assessment of the cytokine status and the state of bone metabolism in patients with rheumatoid arthritis (RA). Totally, of 74 RA patients (59 women, 15 men) aged 27 to 71 years were examined. The levels of cytokines IL-2, IL-6, TNF-α and bone metabolism markers-osteocalcin, osteopontin, free hydroxyproline were determined in the blood of all individuals included in the study group. Patients were divided into two groups based either on the presence or on absence of rheumatoid factor (RF) in the blood serum: seronegative and seropositive RA.

**Results.** The results of the study showed high production of IL-2, IL-6, IL-8, IL-10, TNF-α in RA patients compared to healthy individuals, especially in the seropositive group of patients. Elevated levels of osteocalcin, osteopontin, free hydroxyproline, and activity of ALP have been revealed, which indicates a high “speed” of bone metabolism in RA, which subsequently leads to a decrease in bone mineral density and fractures. Our data indicate the advisability of a comprehensive assessment of biochemical markers of bone metabolism and cytokines for early diagnosis of osteoporosis in RA patients and for monitoring the therapy.

*Key words: rheumatoid arthritis, osteoporosis, interleukins, TNF-α, osteocalcin, osteopontin, hydroxyproline.*

DOI 10.29256/v.03.01.2019.escbm09

**DETERMINATION OF THE DIAGNOSTIC VALUE OF SOME CYTOKINES IN BREAST CANCER**

Orujova I.N., Kerimova I.A., Novruzov E.A.
Azerbaijan Medical University, Azerbaijan

Breast cancer is widespread type of tumor among the female population of Europe, America and some Asian countries. According to total number of cases among the entire population, this type of oncological pathology takes second place after lung cancer. The most important way to combat breast cancer is through early and timely diagnostics.

The aim of our work was to determine the diagnostic value of IL-2, IL-6, IL-8, IL-10 and TNF-α in breast cancer patients.

**Methods and materials.** 76 patients at the age of 18-79 who checked up breast cancer at the Oncological Clinic of Azerbaijan Medical University were included into the study. The control group included 16 practically healthy woman of the corresponding age. The diagnosis was confirmed on the basis of anamnestic, clinical, instrumental, laboratory and morfological datas. Among 76 woman examined, 48 were diagnosed as malignant, and 28 as benign. In all patients, the levels of cytokines (IL-2, IL-6, IL-8, IL-10, TNF-α) was determined using analyzer STAT-FAX 303 PLUS (USA) with kits of the company“Vector –Best” (Russia) by the metod of enzyme immunoassay.

According to the results of our researches, appreciating the malignancy of breast tumors, the total diagnostic weight of the test for IL-2 was 67,1±5,4%, for IL-6 - 84,2±4,2%, IL-8 - 82,9±4,3%, IL-10 - 82,9±4,3% and for TNF-α was 65,8±5,4%.

**Conclusion.** Results showed that the highest diagnostic value had estimation of levels of IL-6, IL-8 and IL-10.

*Key words: breast cancer, cytokines, IL-2, IL-6, IL-8, IL-10, TNF-α*