Background: The purpose of the study was to analyze the status of the immune system of patients with endometrial cancer (EC) in dependence on the disease stage.

Methods: 160 women aged 45–74 years were examined. 49 (31%) patients (mean age 57.89 ± 1.01 years) had stage I of the disease, 74 (46%) patients (mean age 61.21 ± 1.55) had stage II, 37 (23%) patients (mean age 63.20 ± 0.44) had stage III. All the women were in postmenopause for 5–15 years. Data on immune status of 55 practically healthy women were used as the control.

Results: In stage I EC decrease of quantity and activity of monocyte-macrophages was detected in 21% of the patients, mean macrophage monocyte transformation index was 44.8 ± 2.7% and 0.12 ± 0.02\times10^9 which is authentically lower (p < 0.05) than that in healthy women, in 23.4% of the patients increased level of circulating immune complexes (CICs) (34.1 ± 4.1 while the norm was 25.0 ± 3.2 RVUs) was detected. In stage II EC proliferative activity of T-lymphocytes decreased to 36.7 ± 2.6% (p > 0.05) under the influence of phytohemagglutinin. B-lymphocyte ability for proliferation in blasts in blast-transformation reaction (BTR) to lipopolysaccharide (LPS) was decreased as well and amounted to 40.2 ± 3.1. Level of serum CICs varied from 18 RVUs to 70 RVUs and amounted to 45.3 ± 3.6 RVUs. Besides, the quantity of NK cells (large granular lymphocytes) with antitumor activity was decreased by 37.1% in patients with stage II EC. In patients with stage III T-lymphocyte proliferation in blasts on phytohemagglutinin authentically decreased to 34.7 ± 2.4% in comparison with stage I and the norm. B-lymphocyte functional activity (BTR to LPS) authentically decreased as well. The ratio of immunoregulatory T-lymphocytes changed. Their ratio index decreased to 1.0 ± 0.04% in stage III EC. Coefficient of variation level decreased to 46%. Serum CICs level was 49.4 ± 4.0 RVUs, coefficient of variation = 68%.

Conclusions: Thus, we detected some immune status abnormalities. Relative quantity of T-general lymphocytes remains the same regardless of endometrial cancer stage, but high concentration of immune complexes probably blockades the activity of immunocompetent cells, regulatory lymphocytes first of all, that demands further correction.

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