IMMUNOHISTOCHEMICAL TESTS AT THE CHRONIC AUTOIMMUNE ENDOMETRITIS

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The objective of the research: To assess the importance of the immunohistochemical tests for diagnosing chronic autoimmune endometritis.

Materials and methods. 80 female patients of the procreative age were examined during the research. All of them had the reproductive function impairments: infertility and miscarriages, unsuccessful attempts of *extracorporal fertilization and embryo transfer* (ECF and ET). All women were divided into three groups: I group – 43 infertile women (53,7%) with history of legal abortions at different gestational ages, caesarean sections, use of *intrauterine device* (IUD) as a means of contraception, acute and chronic *inflammatory diseases of pelvic organs* (IDOPO), *hysteroscopy with dilation and curettage* of uterine, *hysterosalpingography*, failed attempts of *assisted reproductive treatment* (ART), *extracorporal fertilization and embryo transfer* (EF and ET)*;* II group – 22 (27.5%) women with recurrent miscarriages, history of repeated spontaneous miscarriages with dilation and curettage of the uterine, unsuccessful attempts of *assisted reproductive treatment* (*extracorporal fertilization and embryo transfer*); III (control) group – 15 (18,8%) healthy patients who were infertile.

The examination of the patients was performed with use of common clinical, bacteriological, *immunohistochemical tests*. An ultrasound study of the endometrium was also performed in different phases of *the menstrual cycle* for assessment of the endometrium structure, thickness, synchronization of the ovarian and uterine cycles. *The immune-regulatory complex* as the ratio of T-helpers to T-suppressors (CD4/CD8) was determined.

The research results. Ultrasound monitoring data corroborated the presence of chronic endometritis. In particular, the following features were observed: the presence of hyperhyperechoic formations in the stratum basale, precisely: foci of sclerosis, calcinosis, dilatation of the uterine cavity due to the liquid content, irregularity of the endometrium outline, disparity of the endometrium thickness and the menstrual cycle phase.

The bacterial inoculation results: Enterococcus faecalis in 7 (11,0%), Staphylococcus epidermidis in 12 (10,6%), Streptococcus viridians in 7 (6,2%), Streptococcus pyogenes in 6 (5,3%), Streptococcus agalactiae in 14 (12,3%), Staphylococcus aureus in 7 (6,2%), Klebsiella oxytoca in 3 (2,6%) patients. The polymerase chain reaction test was run for genital infection. It revealed human papilloma virus in 8 (7,1%) patients, genital herpes virus in 12 (10,6%) patients, and urea plasma in 31 (27,4%) patients.

The immunohistochemical test has revealed the presence of CD138 and increased CD16+ (higher than 10 in 3 fields of vision) in 5 (11.6%) patients of the first group. CD56+, HLA-DR(II)+ were normal, chronic endometritis was diagnosed. 24 (55,8%) patients manifested the presence of CD138, CD56+ (higher than 10 in 3 fields of vision), while CD16+ and HLA-DR(II)+ were within normal range, autoimmune chronic endometritis was diagnosed. 14 (32,6%) patients had CD138, CD56+ and CD16+ higher than 10, HLA-DR(II)+ within normal range, chronic endometritis with autoimmune component was diagnosed. In the second group the immunohistochemical test has revealed chronic endometritis in 6 (27,2%) patients – this was indicated by CD138, increased CD16+ (higher than 10 in 3 fields of vision); CD56+, HLA-DR(II)+ were normal. 10 (45,6%) were diagnosed with autoimmune chronic endometritis due to the presence of CD138, CD56+ higher than 10 in 3 fields of, CD16+ and HLA-DR(II)+were within normal range. 6 (27,2%) patients were diagnosed with chronic endometritis with autoimmune component – the diagnosis was made basing on the presence of CD138, CD56+ and CD16+ higher than 10, HLA-DR(II)+ was normal.

Based on the immunohistochemical test findings, chronic endometritis was diagnosed in 11(13.7%) patients, autoimmune chronic endometritis in 34 (42.5%) patients, and chronic endometritis with autoimmune component in 20 (25%) patients. The diagnoses were made in groups I and II before treatment. The immune regulatory indices were normal in patients with chronic endometritis due to the insignificant increase of the number of T-helpers (CD4) and without any significant increase of T-suppressors (CD8). In cases of autoimmune chronic endometritis and endometritis with autoimmune component there was a tendency to the increase of the immune regulatory index in both groups due to the sharp increase of the amount of T-helpers and the increased or normal level of cytotoxic T-lymphocytes, CD4>CD8 by 1.5-2 times. Only 2 out of 20 (14.3%) patients with chronic endometritis with autoimmune component manifested markers typical of the residual effects of the autoimmune process. The amount of cytotoxic lymphocytes CD8 was increased while immune-regulatory index (IRI) was either decreased or normal in those patients.

Conclusion. The results of the immunohistochemical test enable to reveal quantitative changes of the immune competent cells. The changes lead to disturbances in the activity of tissue immunity and to the development of chronic autoimmune processes. Practically, the following elements can be considered indispensable: accurate interpretation of the results of the immunohistochemical test of the endometrium and consideration of the patient's history and clinical signs.