LEVEL OF ESTROGENS AND THEIR METABOLITES IN INFECTED OVARIAN TISSUE IN WOMEN HAVING UTERINE CARCINOMAS

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Aim: Recently growing evidence has indicated the presence of persistent viruses and microorganisms in malignant tumor cells. Studying of the effect of infectious factors on the changes in endocrine profile in hormone-dependent tissues can contribute to detection of the reasons of sharp rise in the frequency of cancer in women over fifty years and the possibility of prevention and treatment of oncopathologies.

Methods: 67 samples of ovarian tissue in patients with uterine carcinomas T1-2N0M0 were studied, mean age 53.4±3.2 years. Levels of estrone (E₁), estradiol (E₂), estriol (E₃), estrogen metabolite ratio 2'-OHE and 16'-OHE were detected in 10% homogenates by enzyme-linked immunosorbent assay with the help of standard test systems (XEMA Co., Ltd.). Intact ovarian tissue without IgG antibodies against infectious agents served as a control. Polymerase chain reaction method was used for the detection of cytomegalovirus (CMV), herpes simplex virus (HSV) and chlamydia infection in ovarian tissue. Statistical analysis of results was made using Statistica 6.0 programme. Written voluntary informed consent of all patients was received in all cases.

Results: 35.8% of 67 samples of ovarian tissue were infected with complex of infections – clamydias+HSV+CMV; 32.8% – HSV only; 11.9% – CMV+HSV; 11.9% – CMV only. Only 7.6% of the samples occurred to be intact. The results of the study show increase of E₁ concentration by 1.6-3.5 times and decrease of E₂ by 7.3-16.4 times in infected ovaries in comparison with uninfected tissues. When calculating the ratio E₁/E₂, maximum prevalence of E₁ by 25-28.8 times higher in comparison with uninfected ovaries in comparison with intact samples. When calculating the ratio E₁/E₂, maximum prevalence of E₁ by 25-28.8 times higher in comparison with uninfected ovaries in comparison with intact samples.

Conclusions: E₁/E₂ ratio changes towards E₁ prevalence in infected ovarian tissue, and estrogen metabolite ratio decreases towards aggressive 16'-OHE prevalence.

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