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OVARIAN ENDOMETRIOID FORMATIONS. PECULIARITIES OF BCL-2, P-53 AND MMP-9 GENES EXPRESSION IN TISSUE.

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CONTEXT. Violation of apoptosis and invasion plays a great role in the pathophysiology of endometriosis. Inhibitors of apoptosis include oncogene bcl-2 and the tumor suppressor gene p-53, which have antiproliferative and antiapoptotic properties. The enhanced invasive ability of endometrial cells is ensured by a high level of expression of matrix metalloproteinases.
THE OBJECTIVE. To determine the role of expression of bcl-2, p-53 and matrix metalloproteinase MMP-9 in ovarian tissue in patients with two histological variants of endometriosis in comparison with normal ovarian tissue.
METHODS. RT-PCR was used to determine the expression level of genes.
PATIENTS. The study included 103 patients: 66 with cystic endometriosis, 22 with glandular-cystic, 15 with normal ovarian tissue.
INTERVENTIONS. All patients underwent laparoscopic ovarian resection within a healthy tissue using KarlStorz equipment (Germany), followed by a histological examination of the resulting material.
MAIN OUTCOME MEASURES. Statistical processing of data was carried out using the program "GraphPad Prism 5.0". Samples were compared using a nonparametric Mann-Whitney test.
RESULTS. An increase in the level of expression of the bcl-2 gene by 1.6 times in patients with a cystic variant of the morphological structure of ovarian endometriosis in comparison with glandular-cystic ($p<0.05$) was revealed. The expression of the MMP-9 gene was increased by an average of 9 times in the endometrioid ovarian tissue comparing with normal ovarian tissue ($p <0.05$). There were no significant differences in the expression of the p-53 gene.
CONCLUSION. The increased expression of the MMP-9 gene in the endometrioid tissue comparing with the tissue of the normal ovary testifies to the increased invasive capacity of endometrial cells. The absence of differences in the expression of the MMP-9 gene in two histological variants of endometriosis suggests that there is no difference in the invasive activity of cells of these variants of ovarian endometriosis. A decrease in the level of bcl-2 may reflect a more severe course of the glandular-cystic type of endometriosis.

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