Gene expression of steroid receptors in the tissues in women with ovarian endometriosis.

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Context: Investigations in endometriosis mechanisms showed that the expression and localization of estrogen (ER) and progesterone (PR) receptors, including their nucleus and membranous types of receptors, influence the effects of steroid receptors on the target tissue. Objective: To evaluate gene expression of ER (mEr, α, β) and PR (PGRmC1, A, B, mPR) in ovarian endometriosis according to morphologic variant in women of reproductive age. Patients: Taking into account the morphologic variant, all the patients were divided into 2 groups: I - 66 patients with ovarian endometriosis with cystic type; II - 22 patients with glandular-cystic. The age of women was 32±6.2 years. Methods: The research included analysis of expression in endometrioid tissues: membranous (mER) and nucleus (ERα and ERβ) ER receptors, membranous (mPR and PGRmC1) and nucleus (PR-A and PR-B) PR receptors. Interventions: 88 patients underwent laparoscopic cystectomy with the usage Karl Storz equipment (Germany). Main outcome measures: The study showed that expression of receptor mER in cystic type was 17.69±1.93(100*0.5^-Ct?0.00), in glandular-cystic type - 17.01±3.93. (P=0.947). The expression of ERα (13.22±2.00) and ERβ (5.81±2.04) in cystic type did not differ from expression of ERα (12.91±2.65) and ERβ (3.78±1.5) in glandular-cystic type (P=0.842, P=0.541). The research of expression of membranous receptor PGRmC-1 in cystic type showed 4-fold increase (P=0.038) compared with glandular-cystic type. Results: PGRmC-1 was demonstrated to play a crucial role in ovarian functioning. Conclusions: In steroid-receptor transcriptome of glandular-cystic type expression of PGRmC-1 was 4 times higher compared with cystic type of ovarian endometriosis (P=0.038). Therefore, in the research the possible molecular cause of glandular-cystic type of ovarian endometriosis compaired with glandular-cystic type was defined.