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TITLE

CORRELATION BETWEEN SIGNALING PATHWAYS ACTIVATION LEVEL IN EUTOPIC AND ECTOPIC ENDOMETRIUM.

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ABSTRACT

Context: The absence of qualitative non-invasive methods of timely diagnosis of endometriosis forms the relevance of studying this disease at molecular level.

Objective:to identify all specific changes of intracellular signaling pathways (ISP) activity in eu- and ectopic endometrium and the correlation of molecular abnormalities in these locations.

Methods: transcriptome of cells has been investigated by microchip hybridization (CustomArray). The profiles of ISP activation in the studied samples were calculated using bioinformatics methods.

Patients:20 women with different forms of endometriosis, who were not treated with hormonal medicines before surgery. We have fully analyzed data of 10 patients (10 eu-, 10 ectopic and 5 normal endometrial samples).

Intervention: laparoscopic endometriosis excision of ectopic foci, hysteroscopy with endometrial scraping. After that RNA was isolated from the obtained tissue samples for further transcriptome analysis.

Main Outcome Measures: we have identified the top-15 differentially up- and down-activated ISP in endometriosis foci compared to the normal endometrium. Firstly we normalized all pathway activation profiles on the normal endometrium sample and then compare eu- and ectopic endometrium with each other.

Results: estimation of obtained data identified 85% correlation in molecular changes between eutopic endometrium and right ovarian endometriotic cyst. Almost 98% correlation was found between eutopic endometrium and peritoneal endometriosis.

Conclusion: evaluation of changes in the eutopic endometrium may serve as a marker of tissue condition in ectopic foci. The analysis of ISP activity in eutopic endometrium can be used as a reliable monitoring method of the effectiveness of the therapy. It will be possible to track the status of ectopic endometrium by analyzing eutopic endometrium (hysteroscopy versus relaparoscopy).

INSTITUTE

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