

CONCLUSIONS

Based on the results of the current thesis, following conclusions can be made:

1. Combined treatment approach may be used for endometriosis-associated infertility. Individual approach is needed for every infertile woman. Pregnancy and delivery rates at different stages of endometriosis were not affected by the different approaches used for infertility treatment, with >60% and >50% of patients conceived and delivered a baby, respectively, in both groups of minimal-to-mild and moderate-to-severe forms of endometriosis. The usefulness of GnRHa treatment for endometriosis patients with minimal-to-mild forms is questionable and deserves further studies.
2. PA and sedentary levels did not influence embryo implantation in IVF; however, physically more active women obtained higher number of oocytes and embryos after COS. Based on our study results, the patients receiving embryos in IVF program should continue their normal lifestyle without reducing PA levels.
3. ER genes' expression is not affected in women with endometriosis. However, the expression levels of the well-known ER genes enable to determine the endometrial biopsy collection time throughout the menstrual cycle.
4. Endometrial cells in distinct locations, i.e., eutopic and ectopic locations, react differently to the treatment with cytotoxic compounds, a phenomenon that may be related to the altered expression of several genes involved in endometriosis pathogenesis.

In conclusion, the results of these studies have broadened our knowledge of how endometriosis and PA affect the effectiveness of infertility treatment. In addition, our basic scientific findings confirmed differences in gene expression between the endometrium and endometriotic lesions and could help refine future endometriosis research.