LOWER EXPRESSION OF THE GENE CYP19A1 IN CUMULUS OOPHORUS CELLS FROM INFERTILE WOMEN WITH MINIMAL AND MILD ENDOMETRIOSIS MAY BE INVOLVED IN THE INFERTILITY RELATED TO THIS DISEASE

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Objective: The mechanisms involved in the etiopathogenesis of infertility in patients with endometriosis, especially in cases of minimal and mild disease, have not been fully elucidated and impairment of ovarian steroidogenesis may be one of them. Aromatase plays essential roles for the intrafollicular steroidogenic production and acquisition of oocyte competence. Cumulus cells (CCs) may provide biomarkers of oocyte quality. Thus, this study aimed to quantify and compare the expression of the gene CYP19A1 (aromatase gene) in CCs obtained from infertile women with minimal and mild endometriosis and without this disease submitted to ovarian stimulation for intracytoplasmic sperm injection (ICSI).

Design: Prospective-controlled study.

Materials and Methods: CCs were isolated from 23 Cumulus oophorus complexes of 23 infertile women with endometriosis and 41 COCs from 41 patients with male and/or tubal factors of infertility submitted to ovarian stimulation for ICSI. CYP19A1 gene expression was quantified in both groups using quantitative PCR. Statistical analysis was performed using Anova.

Results: There was lower expression of the CYP19A1 gene in the endometriosis group compared to control.

Conclusions: Lower expression of the CYP19A1 gene was observed in CCs of infertile patients with minimal and mild endometriosis submitted to ovarian stimulation for ICSI. These data suggest that impairment of follicle steroidogenesis might be involved in the pathogenesis of infertility related to the initial stages of pelvic endometriosis. However, further studies are needed to elucidate whether the impairment of steroidogenesis might lead to poor oocyte quality in this group of patients.

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