Determination of Hyaluronic Acid and of the Hyaluronan Synthases (HAS 1, 2 and 3) in Endometrium from Women with Polycystic Ovary Syndrome (PCOS)

R. Simões, R. Gomes, M. Giordano, H. Nader, J. Soares Júnior, E. Baracat

Objective: analyze the concentration of hyaluronic acid and activity of hyaluronan synthases (HAS1, 2 and 3) in endometrium from women with polycystic ovary syndrome endometrium of patients with polycystic ovary syndrome (PCOS). Patients: In this study, 10 women were evaluated according to PCOS (according to Androgen Excess - Polycystic Ovary Syndrome Society, 2006) and 10 women were included in the PCOS group (PCOS), and 10 women were included in the control group (CG). The women were recruited from the Gynecology Clinic of the Hospital das Clínicas of São Paulo (HC-USP). The endometrium biopsies in CG, the endometrium of patients in the proliferative phase (12th day) of their regular menstrual cycles and in the PCOS, the biopsies were performed at any time. Immunohistochemical reaction was evaluated by detection of hyaluronan synthases (HAS 1, 2 and 3) distribution within the endometrium and tissue HA content was determined through an ELISA-like fluorometric assay with the same hyaluronan-binding protein and with europium-labeled streptavidin in the endometrium biopsies of patients in both groups. Data were analyzed by the unpaired Student's t-test. Result(s): Biochemical data showed higher concentration of hyaluronic acid in the endometrium of women belonging to the group CG (0.38±0.05* µg/mg) than in PCOS (0.06±0.02µg/mg) (*p<0.05). Already a immunohistochemistry showed HAS1 be increased and decreased HAS2 and HAS3 in the endometrium of PCOS women when compared to the control group of women. Conclusion (s): Our results showed a decrease in the amount of hyaluronic acid in the endometrium of women with PCOS due to decrease in HAS2 and 3. This may contribute to infertility in women with this syndrome.