ISGE
GYNECOLOGICAL ENDOCRINOLOGY
THE 18TH WORLD CONGRESS
7-10 MARCH 2018 FLORENCE, ITALY

P125. Interleukin 15 concentrations in follicular fluid and their effect on oocyte maturation in subfertile women undergoing intracytoplasmic sperm injection.

S SPANOU (GR) [1], E ZAPANTI (GR) [2], D KALOGIANNIS (GR) [3], M GAZOULI (GR) [4], I SFONTOURIS (GR) [5], C SIRISTATIDIS (GR) [6], G MASTORAKOS (GR) [7]

Context: the assessment of oocyte quality plays a key role in assisted reproductive techniques (ART). Therefore, the need to identify the best embryo(s) for transfer at the most competent stage has directed research to the description of oocyte morphology and efficiency. The aim of this study is to examine whether the concentrations of IL-15 in follicular fluid (FF), correlates with oocyte maturity.
Objective: to calculate the concentrations of interleukin 15 (IL-15) in FF and estimate their relation with oocyte maturation, follicle size, and patients' body mass index (BMI) and age.
Methods: follicular fluid specimens were obtained from 56 subfertile women undergoing intracytoplasmic sperm injection (ICSI) during oocyte retrieval for measurement of IL-15 concentrations with ELISA. Wilcoxon's test and Pearson's correlation coefficient were used to correlate FF concentrations of IL-15 with follicular size and stage of oocyte maturation, along with patients' BMI and age.
Participants: the cohort of the study participants included 56 subfertile women undergoing ICSI. The women included in the study were 20-45 years old (mean±SD, 36.3±6.7) with BMI between 16.5 and 37.5 (23.4±4.1) and were undergoing ICSI. The exclusion criteria for the participation in the study were: presence of inflammatory or infectious conditions, autoimmune and neoplastic diseases or medication intake that might affect the immune system within four weeks of the oocyte retrieval. These women were either on a natural IVF cycle or a modified natural cycle or a short stimulation protocol or a mild stimulation protocol.
Interventions: No.
Main Outcome Measure: correlation of IL-15 concentrations in FF with oocyte maturation.
Results: IL-15 concentrations in FF of follicles with immature oocytes were significantly greater than those from follicles with mature ones (median: 5.333 pg/ml vs. 3.250 pg/ml, respectively, $p<0.001$). There was a significant negative correlation between IL-15 concentrations and follicle size ($r=-0.333$, $p=0.003$). No significant correlation was observed between IL-15 concentrations and patients' BMI and age ($p>0.05$).
Conclusions: IL-15 concentrations in FF are adversely related with the size of the follicles and the maturity of the corresponding retrieved oocytes in a cohort of expected normal responders undergoing intracytoplasmic sperm injection (ICSI). Follicular fluid concentrations of IL-15 should be investigated as a possible predictive factor for oocyte competence.

[1] Unit of Endocrinology, Diabetes Mellitus and Metabolism, Aretaieion Hospital, Medical School, National and Kapodistrian University of

Athens, Athens, Greece, [2] Department of Endocrinology and Diabetes, Alexandra Hospital, Athens, Greece, [3] Faculty of Animal Science and Aquaculture, Department of Anatomy and Physiology of Farm Animals, Agricultural University of Athens, Athens, Greece, [4] Laboratory of Biology, Department of Basic Medical Sciences, Medical School, National and Kapodistrian University of Athens, Athens, Greece, [5] Division of Child Health, Obstetrics and Gynaecology, School of Medicine, University of Nottingham, Nottingham, UK, [6] Assisted Reproduction Unit, Third Department of Obstetrics and Gynecology, Attikon Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece, [7] Unit of Endocrinology, Diabetes Mellitus and Metabolism, Aretaieion Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece