

## 9<sup>th</sup> Yazd International Congress and Student Award on Reproductive Medicine with 4<sup>th</sup> Congress of Reproductive Genetics

### Poster Presentations

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#### Comparison of the Betatrophin level and its association with metabolic and inflammatory parameters in PCOS and non-PCOS infertile women condidated for IUI

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**Background:** Betatrophin may be associated with metabolic diseases.

**Objective:** To investigate the betatrophin level and its association with metabolic and inflammatory parameters in infertile women with polycystic ovary syndrome (PCOS) and other infertile women during the intrauterine insemination cycle.

**Materials and Methods:** This case control study was conducted on 90 infertile women (45 PCOS and 45 non-PCOS) chosen by convenience sampling method, in Tehran. Participants were interviewed to obtain age,

body mass index, reproductive history. Fasting brachial venous blood samples were obtained on the 3<sup>rd</sup> day of the menstrual cycle in order to measure the betatrophin, fasting blood sugar, insulin, luteinizing hormone, follicle-stimulating hormone, low-density lipoprotein cholesterol, estradiol, and high-sensitivity C-reactive protein. To analyze the data, SPSS 25 software and statistical tests such as independent Student's *t* test, chi-square test, and multiple linear regression were used.

**Results:** The results showed that the level of betatrophin in women with PCOS was significantly higher than in the control group ( $p = 0.05$ ). Based on multiple linear regression analyses, the effects of metabolic and inflammatory parameters on betatrophin were not significant ( $p > 0.05$ ). The results showed no significant difference between groups in folliculogenesis ( $p = 0.57$ ).

**Conclusion:** According to the results, betatrophin levels were higher in PCOS infertile women than in infertile non-PCOS women. Indirectly, one might argue that there is a potential association between an increase in betatrophin and a possible increase in the incidence of PCOS syndrome. Further studies with a larger sample size are needed to investigate the role of betatrophin in insulin resistance, lipid metabolism, and its effects on infertility treatment outcomes.

**Key words:** Betatrophin protein, Human, Infertility, Polycystic ovarian syndrome, Iran.