

9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Poster Presentations

P-59

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

Keikha F¹, Shahrokh Tehraninejad E¹, Rakhshkhorshid M², Afiat M³, Haghollahi F¹, Ghasemi F¹.

1. Health Reproductive Research Center, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran.

2. Department of Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

3. Department of Obstetrics and Gynecology, Milad Infertility Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

Email: malihehafiati@gmail.com

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 3rd 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.*