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

Poster Presentations

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Relationship between leptin and its polymorphism (-2548 G/A) and recurrent pregnancy loss in women with polycystic ovary syndrome

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Background: Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders result in infertility and abortion in women. Leptin has a vital role in the regulation of body weight via interacting with its specific leptin receptor. Polymorphism of their related genes may play an important role in etiology and pathogenesis of PCOS related disorders.
Objective: This study investigate the relationship of leptin gene (*LEP -2548 G/A*) and its plasma level with the risk of infertility and recurrent pregnancy loss (RPL) in women with PCOS.
Materials and Methods: A total of 324 PCOS patients (including 199 infertile patients and 125 patients with a history of RPL) and 150 Non-PCOS enrolled in this study. Biochemical parameters were measured and the leptin gene (*LEP -2548 G/A*) was genotyped using PCR-restriction fragment length polymorphism (RFLP) techniques.
Results: There was a significant difference in GG genotype of leptin polymorphism in PCOS-infertile woman as compared to Non-PCOS subjects (p = 0.043, OR = 0.47, 95% CI = 0.22-0.97). Leptin level was significantly higher in PCOS-infertile (33.27 ± 8.45 ng/ml) and PCOS-RPL (36.47 ± 7.41 ng/ml) sub-groups compared to Non-PCOS group. Leptin level elevated the risk of PCOS (1.203, 95% CI [1.009-1.435]) as well as RPL related PCOS (1.267, 95% CI [1.054-1.522]) in females.
Conclusion: Our findings showed that high leptin level was associated with PCOS related disorders. Evidence suggests that high level of leptin increase the risk of RPL in PCOS women. However, more researches with large sample size is needed to find more leptin gene polymorphism in PCOS related disorders.
Key words: *Polycystic ovary syndrome, Leptin, Infertility, Recurrent pregnancy loss.*