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Poster Presentations

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Association study of *TNF-α*-238G/A, *GSTT1* and *GSTM1* polymorphisms with the risk of recurrent pregnancy loss in Iranian women

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Background: Recurrent pregnancy loss (RPL) affects <5% of couples and shows an increasingly elevated frequency in industrial regions. The reactive oxygen species and cellular oxidative stress are involved in inflammation development. Tumor necrosis factor-alpha (TNF-α), one of the pro-inflammatory cytokines and Glutathione S-transferases are enzymes involved in oxidative stress handling. Polymorphisms of genes encoding mentioned molecules may potentially influence the risk and the outcome in RPL disease.

Objective: In this study, we studied the occurrence of genetic polymorphism in TNF-α, GSTM1, and GSTT1 genes with RPL in an Iranian population as a case control study.

Materials and Methods: In this study, we enrolled 85 women with RPL and 85 normal women (age and ethnically matched healthy controls with successful reproductive history). DNA was extracted from whole blood samples. The GSTM1 and GSTT1 null phenotype was identified by multiplex PCR and TNF-α-238G/A polymorphism was determined using the PCR-RFLP technique.

Results: The results of our study showed significant differences in genotypic frequencies of *TNF-α*-238G/A between case and control groups ($p = 0.0001$), but our results provided no evidence of a relationship between the *GSTM1* ($p = 0.635$) and *GSTT1* ($p = 0.493$) genes polymorphism and susceptibility to RPL in the studied population.

Conclusion: The *TNF-α*-238G/A variant is a possible genetic risk factor for RPL in our population, and this polymorphism can be used as a relevant marker to identify women at risk of developing endometriosis.

Key words: *Recurrent pregnancy loss, GSTT1 gene, GSTM1 gene, TNF-α gene, Polymorphism.*