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Poster Presentations

P-108

Evaluation of *PGRMC1* gene expression in premature reduction of ovarian reserve in women under 35 years of age in Yazd, Iran

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Background: Premature reduction of ovarian reserve is a heterogeneous condition that it may occure through mutations in genes involved in the normal growth of the ovaries and follicles. Among these genes, it is recognized that progesterone receptor membrane component-1 (*PGRMC1*) gene, as a reproductive gene, is associated with premature reduction of ovarian reserve.

Objective: The aim of this study is evaluation of *PGRMC1* gene expression in women under the age of 35 yr with premature depletion who have referred to Yazd Infertility Center.

Materials and Methods: 25 women under the age of 35 with anti molerian hormone AMH > 2 referred to the recurrent abortion clinicn in Yazd Reproductive Sciences Institute and 25 women with normal ovarian reserve with the same age entered as cases and controls in this study. After obtaining the consent to participant in this study, their blood samples were taken in an EDTA tube and their genomic DNA was extracted by DNA Extraction Kit (FAVORGEN). The expression of *PGRMC1* gene was tested using RT-PCR method.

Results: Our results indicated that the *PGRMC1* gene expression in premature reduction of ovarian reserve samples (positive group) increased relative to the negative group. Also, the area under the curve of PGRMC1 expression of all study populations showed discriminatory power of *PGRMC1* gene expression between the positive and control groups. Besides that, the receiver operating characteristic curve analysis showed the *PGRMC1* gene expression has a sensitivity of 82%, a specificity of 83%, and a cutoff level of 1.76.

Conclusion: This study points to a significant association between *PGRMC1* gene expression and decreased AMH levels in patients with premature reduction of ovarian reserve suggesting that quantitative expression of *PGRMC1* gene in samples may be a valuable biomarker for predicting premature decline in ovarian reserve in young women.

Key words: *Premature reduction of ovarian reserve, PGRMC1 gene, RT-PCR.*