

study of the Relation between Soluble HLA-G with Success Rate in ICSI

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Background & Objective: Pregnancy is a successful transplantation. The factors evading rejection of the fetus are poorly understood. The success rate and maintaining the embryo in intracytoplasmic sperm injection (ICSI) procedure may also depend on the same factors. The molecules of HLA-G are nonclassical major histocompatibility complex class I antigens that have been attracted attention in relation to pregnancy. In order to find the relation of soluble HLA-G (sHLA-G) with the success of pregnancy, the serum levels of sHLA-G was measured in women before and after ICSI and was also compared to the serum levels of normal pregnant women. **Methods:** Serum samples of 131 women under ICSI (test group) were collected before and 14 days after embryo transfer and serum samples of 24 normal pregnant women (control group) were collected in the first trimester. Soluble HLA-G1 and G5 isoforms and total sHLA-G were assayed with a sandwich ELISA. **Results:** No significant differences in clinical parameters (age, infertility duration, treatment regimen) were observed between pregnant and nonpregnant women under ICSI procedure. The levels of sHLA-G1 and G5 and optical density (OD) of total sHLA-G prior and after ICSI in pregnant group were respectively 47.4 ± 62.8 U/ml, OD: 1.47 ± 0.58 prior and 59.6 ± 69.5 U/ml, OD: 1.38 ± 0.57 after ICSI. In nonpregnant group these were respectively 35.19 ± 54.3 U/ml, OD: 1.37 ± 0.45 prior and 39.7 ± 57.2 U/ml, OD: 1.31 ± 0.46 after ICSI. The same factors in control group were correspondingly 53.16 ± 47.92 U/ml and OD: 1.29 ± 0.49 . No significant differences were found between pregnant and nonpregnant groups and corresponding control group. The results of 39 pregnant and 92 nonpregnant women in the test group showed no significant increase or decrease in the serum levels of sHLA-G1 and G5 isoforms and OD of total sHLA-G after embryo transfer. **Conclusion:** No relation was found between sHLA-G and the success of pregnancy in women under ICSI procedure.

Serum Level and Polymorphisms of Promoter Region of Transforming Growth Factor-Beta (TGF-β1) Gene in Pre-Eclampsia and Control Group

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Background & Objective: Pre-eclampsia (PE) is pregnancy associated disorder with hypertension and proteinuria that cause neonatal and maternal morbidity and mortality. The current hypothesis regarding the etiology of PE is focused on deviation of immune responses and Type1/Type2 cytokines disequilibrium. Type2 cytokines appear to contribute to the maintenance of pregnancy by controlling the immune and endocrine systems. TGF-β1 plays important roles in immunoregulation, immune deviation, placental development, hypertension and renal function. Presence of this cytokine in semen and pregnancy associated site (tissues) prompt us to evaluate association of this cytokine with PE ethiopathology. **Methods:** In this investigation the polymorphisms of the TGF-β1 gene at promoter region positions -800 (G/A) and -509 (C/T) that affect expression of this cytokine were studied in 142 PE and 140 normal pregnant female subjects by PCR-RFLP. Also TGF-β1 serum level was determined by ELISA method. **Results:** It was shown that at position -800 (G/A) polymorphism, genotype distribution and allele frequencies between PE patients (GG

73.9%; GA 21.1%; AA 4.93%) and normal control (GG 70%; GA 28.6%; AA 1.4%) showed no significant differences. but AA genotype of -800 (G/A) position were higher in PE patients than control group. In the case of the -509 (C/T) polymorphism, 28.2% of patients, 25% of normal controls, were homozygote CC. While 41.5% of cases and 44.3% of normal controls, were heterozygote CT, 30.3% of PE and 30.7% of normal controls, were homozygote TT respectively. Statistical analysis showed no significant differences of allele and genotype distributions frequencies between PE cases and normal controls at position-509 (C/T). But CC genotype at this position was higher in PE patients than control group. Mean TGF- β 1 serum levels were 62.14 and 45.7 ng/ml in PE patients and control group respectively. **Conclusion:** The promoter region polymorphisms of TGF- β 1 may not be associated with PE, but serum levels of this cytokine may contribute in the etiopathology of PE by different mechanisms. Future studies need to clarify the association of TGF- β 1 with PE.