The promoter region (−800, −509) polymorphisms of transforming growth factor-β1 (TGF-β1) gene and recurrent spontaneous abortion

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Abstract

Recurrent spontaneous abortion (RSA) is regarded as a common pregnancy complication in southern Iran. The exact causes of RSA are not yet known. Transforming growth factor-β1 (TGF-β1) is produced by T regulatory lymphocytes (Treg), which play an important role in the physiology of pregnancy. Several polymorphisms of the TGF-β1 gene have been reported, some with important correlation with disease severity. In this investigation, the polymorphism of the TGF-β1 gene at promoter region positions −800 (G/A) and −509 (C/T) was studied in 111 RSA and 110 normal female subjects from southern Iran by PCR-RFLP. Results indicated that at position −800 (G/A) polymorphism, 75.7% of RSA cases and 77.3% of normals were homozygote GG. In addition, 23.4% of cases and 22.7% of normal individuals were heterozygote AG. Only one of the patients appeared to be homozygote AA. None of the normal individuals were found to be homozygote AA at this position. In the case of the −509 (C/T) polymorphism, 38.7% of patients and 28.2% of controls were homozygote CC. While 40.6% of cases and 50.9% of normal individuals were heterozygote CT, 20.7% of RSA cases and 20.9% of controls were homozygote TT. The results indicate that there are no statistically significant