

The Relationship between Polymorphisms of Blood Coagulation Factor V Gene and Recurrent Pregnancy Losses

Torabi, Raheleh (M.Sc.)¹; Ostadkarampour, Mahyar (M.Sc.)²; Mohammadzadeh, Afsaneh (M.D.)³; Arefi, Soheila (M.D.)³; Keramatipour, Mohammad (M.D., Ph.D.)⁴; Zarei, Saeed (M.D.)²; Zeraati, Hojjat (Ph.D.)⁵; Jeddi-Tehrani, Mahmood* (Ph.D.)²

1. Faculty of Science, Tehran Science & Research Branch, Islamic Azad University, Tehran, Iran.

2. Monoclonal Antibody Research Center, Avicenna Research Institute, ACECR, Tehran, Iran.

3. Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran.

4. Department of Medical Genetics, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

5. Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Abstract

Introduction: Polymorphisms of coagulation factor V gene are the most important suspected causes of thrombophilia in women with recurrent pregnancy losses (RPL). In this study the association between three polymorphisms of factor V (FV Leiden, FV A4070G & FV A5279G) and RPL are sought in Iranian women.

Materials & Methods: In this case-control study, 100 female patients with at least two recurrent abortions were selected as the cases, and 100 healthy women with a history of two successful deliveries as the controls. Peripheral blood samples were collected and DNA was extracted. PCR-RFLP method was used for genotyping the samples.

Results: Regarding the prevalence of FV Leiden mutation in the cases and the controls, 13% and 4% respectively, the chances for recurrent pregnancy losses were more than 3.5 times higher in individuals with this polymorphism (OR: 3.586, 95% CI: 1.127–11.412). The frequencies of FV A4070G and FV A5279G were 14% and 37% in the case and 4% and 7% in the control groups, respectively and the chances for RPL were higher in cases with these two polymorphisms. The proportion of cases with two or three mutations in the gene in comparison with the controls, showed a significant correlation between FV Leiden and FV A4070G polymorphisms. Statistical analysis of the simultaneous effects of the three polymorphisms for RPL showed that evaluation of FV A4070G and FV A5279G could help assess the chances of the three mutations for RPL.

Conclusion: The three polymorphisms in coagulation V gene are accompanied with increased risks for RPL. Evaluation for the three polymorphisms is suggested in the work up of women with RPL.

Key Words: Blood coagulation factor V, FV A4070G, FV A5279G, FV Leiden, Polymorphism, Recurrent Pregnancy Loss, Thrombophilia.

Corresponding Author: Mahmood Jeddi-Tehrani, Monoclonal Antibody Research Center, Avicenna Research Institute, Shahid Beheshti University, Evin, Tehran, Iran. P.O. Box 19615-1177
E-mail: mahjed@avicenna.ac.ir

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