

Analysis of Plasminogen Activator Inhibitor-1, Integrin Beta3, Beta Fibrinogen, and Methylenetetrahydrofolate Reductase Polymorphisms in Iranian Women with Recurrent Pregnancy Loss

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Keywords

Abortion, beta fibrinogen, integrin beta 3, methylenetetrahydrofolate reductase, plasminogen activator inhibitor 1

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Problem

To identify the associations of the plasminogen activator inhibitor-1 (PAI-1) γ 675 4G/5G, beta fibrinogen (BF) γ 455G/A, integrin beta 3 (ITGB3) 1565T/C, and methylenetetrahydrofolate reductase (MTHFR) 677C/T and 1298A/C polymorphisms with recurrent pregnancy loss (RPL).

Method of study

Polymerase chain reaction and restriction fragment length polymorphism (PCR-RFLP) were performed to assess the frequency of five candidate genetic risk factors for RPL, and the frequencies of the polymorphisms were calculated and compared between case and control groups.

Results

The BF γ 455G/A, MTHFR 677C/T, and 1298A/C polymorphisms were found to be positively, and ITGB3 1565T/C polymorphism negatively, associated with RPL. Homozygosity but not heterozygosity for PAI-1 γ 675 4G/5G polymorphism was significantly higher in patients with RPL than in the control group. The presence of both mutations of MTHFR genes highly increased the risk of RPL.

Conclusion

The data highlight the importance of thrombophilia screening in patients with RPL.