

The aim of presented study was to compare frequencies of eight antiphospholipid antibodies (aPL) in serum and assorted genetic thrombophilic factors and their mutual relation in patients with recurrent pregnancy loss (RPL) and controls.

Enzyme-linked immunosorbent assay was used for detection of aPL against phosphatidyl-L-serine, phosphatidylethanolamine, phosphatidylinositol, phosphatidyl-DL-glycerol, phosphatidic acid, annexin V, cardiolipin, and beta2-GPI. Thrombophilic mutations factor V Leiden (F5 G1691A), F II G20210A, and MTHFR C677T and A1298C variants were determined using a melting curve analysis of the PCR amplification product detected by the fluorescence resonance energy transfer (FRET). PAI1 (-675)4G/5G, PROZ intron F G79A, PROZ A(-13)G and PROZ R255H variants were determined using standard PCR-RFLP method. Genotypes distribution and allelic frequencies were calculated. Correlation between aPL and thrombophilic factors was tested by chi-square and Fisher exact test.

Our results showed significantly increased prevalence of aPL against phosphatidylinositol (17 - 19.6 % dependent on number of spontaneous miscarriages) and against phosphatidyl-L-serine (18-25 %). aPL in IgG prevailed. In 96 % of studied group we found at least one risk factor (either aPL positivity or thrombophilic factor). Both aPL and thrombophilic factors were present in 43 % of women with RPL. In the group of women with 3 or more RPLs, strong positive correlation of aPL positivity and thrombophilic status was observed. Statistically highly significant correlation between RPL and PAI1 (-675)4G/4G genotype was found. We observed no relation between PAI1 (-675)4G/5G polymorphism and the presence of antiphospholipid antibodies in RPL patients. Finally, no statistically significant association between either RPL and PROZ gene variants or PROZ R255H mutation and aPL were proven.

Antiphospholipid antibodies and genetic thrombophilic factors are subjected to research as possible important risk factors in the pathogenesis of RPL. More studies for the presence of autoantibodies against various kinds of phospholipids and genetic thrombophilic factors are recommended in order to establish new biomarkers usable for appropriate management in RPL cases.