Abstract

Thrombosis in decidual vessels is one of the mechanisms of pregnancy loss. However, few studies have assessed the relation between platelet activation, which is known to cause of thrombosis, and recurrent pregnancy loss (RPL). We investigated platelet activation in women with RPL compared to controls by measuring plasma levels of platelet factor 4 (PF4) and β-thromboglobulin (βTG), and assessed correlations between PF4/βTG and coagulative risk factors associated with RPL. The study group included 135 women who had experienced two or more consecutive pregnancy losses. The control group included 28 age-matched healthy women who had never experienced pregnancy loss. PF4 and βTG plasma levels were significantly higher in the women with RPL than controls (PF4: 14.0 [8.0-20.0] vs. 9.0 [6.0-12.0] ng/ml, p=0.043; βTG: 42.0 [24.3-59.8] vs. 31.5 [26.6-36.4] ng/ml, p=0.002). There was a significant association between βTG and anti-phosphatidylethanolamine antibody immunoglobulin M (aPE IgM) (p=0.048). Among the women with RPL, 18 of those who were positive for PF4 (45%) and 18 of those who were positive for βTG (37%) were negative for all known coagulative risk factors associated with RPL. Measurements of PF4 and βTG may be important because they help identify women who are at risk of RPL.

Keywords

Recurrent pregnancy loss, platelet factor 4, β-thromboglobulin, platelet activation