Association between non-O blood group and spontaneous abortion in women with inherited thrombophilia

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Background: Spontaneous abortion is reported to be one of the most frequent pregnancy complications reaching a prevalence up to 15%. The association between congenital thrombophilia and pregnancy loss has been debated in several studies with conflicting results. We aimed to retrospectively evaluate the prevalence of inherited thrombophilia (i.e antithrombin, protein S and C deficiencies, factor V Leiden and prothrombin variant) in a group of women with a personal history of miscarriage. The prevalence non-O blood group, considered the most common thrombophilic condition, was concomitantly considered.

Materials and methods: A group of n. 566 women with a personal history of spontaneous abortion recruited among caregivers of patients admitted to the Medical Department of our University Hospital between December 2011 and December 2019 were enrolled. Women under 18 yrs, those with a personal history of venous and/or arterial thrombosis and with an acquired thrombophilic condition were excluded. An equally number of healthy women without a personal history of pregnancy loss acted as controls. The Odds Ratios (ORs) and 95% confidence intervals (CIs) were calculated as an estimate of pregnancy loss developing.

Results: Out of n. 566 enrolled women, n. 127 (22.4%) had an inherited thrombophilic condition. The prevalence of congenital thrombophilia was significantly higher in women with miscarriage than controls (OR 2.12; CI 95% 1.51–2.92). Non-O blood type was observed in n. 325 (57.4%) women. The prevalence of non-O blood group was significantly higher in women with pregnancy loss (p 0.01) and the association of thrombophilia and non-O blood type further increased the risk of pregnancy loss (OR 3.28; CI 95% 2.01–5.36).

Conclusions: Both inherited thrombophilia and non-O blood type should be considered risk factors for pregnancy loss. The knowledge of this information may help the clinician to better manage women with pregnancy loss. Further studies are required to confirm our findings.