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STATE OF HEMOSTASIS SYSTEM IN PATIENTS WITH THROMBOPHILIA AND FAILED ATTEMPTS OF IN VITRO FERTILIZATION IN ANAMNESIS

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Background. In vitro fertilization (IVF) is one of the most modern and promising methods of infertility treatment. Due to the widespread use of assisted reproductive 190 technologies (ART), the issue of improving their efficiency becomes especially relevant. This study objective was to determine a state of hemostasis system and pathophysiological mechanisms of thrombosis development in patients with genetic and acquired thrombophilia. Materials and methods. The study included 62 women with a history of failed IVF attempts, with tubal and peritoneal infertility factor and thrombophilia, who were main group. The control group included 30 healthy women. All women were of reproductive age from 21 to 43 years. Patients in the main group had no pregnancy in amamnesis, however each had two or more failed IVF attempts. Examination for the causes of infertility and IVF failure included hormonal and genetic studies, HLA-typing, ultrasound, hysterosalpingography and their infectious profile was determined. Examinations were performed according to the indications depending on the clinical situation. Study results and discussion. When studying the structure of thrombophilia in patients of the main group (n = 62) it was found that the most common form of thrombophilia is APS which was diagnosed in 26.4 % cases. The percentage of combined forms of thrombophilia (hereditary and APS) remained high and was 27 %. Polymorphism in the methylenetetrahydrofolate reductase gene (MTHFR-C677) was diagnosed in 14.5 % of patients, which is one of the most significant inherited folate deficiency conditions leading to a significant increase in homocysteine levels in the blood. The fibrinogen gene (FGB-455) mutation was determined in 11.5 % of cases, a polymorphism in the plasminogen activator inhibitor-1 gene (PAI-1) was found in 9.3 % of cases, prothrombin gene (F2-20210) mutation — in 5.5 % of cases, polymorphism in the platelet membrane receptor gene (ITGB3) — in 4.6 % of cases and 1.2 % of cases was the heterozygous form of Factor V Leiden mutation. Lupus anticoagulant (LA) was found in all examined patients of the main group with various forms of thrombophilia at a high risk of thrombosis. The results suggest that LA is both a marker of APS and reflects the total coagulopathic changes in patients with various forms of thrombophilia. Conclusions. Thus, the results of study showed that women with thrombophilia and failed IVF attempts in anamnesis have pathological activation of hemostasis system, which plays a significant role in pathogenesis of unsuccessful ART attempts. In this case, the presence of LA in the blood of the main group patients suggests that it is not only an APS marker, but reflects and affects the total coagulopathic changes in patients with various forms of thrombophilia. At the same time, women with thrombophilia and failed IVF attempts in anamnesis had a subclinical form of chronic disseminated intravascular coagulation in blood (DIC). The leading element in the development of chronic DIC is activation of platelet-vascular hemostasis with subsequent involvement in the process of coagulation potential caused by a decrease in blood anticoagulation system indicators.