

## Haemostasis in the patients undergoing in vitro fertilization

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**Statement of the Problem:** In vitro fertilization (IVF) represents one of the most effective forms used in the treatment of infertility. Global assays of haemostasis confirmed procoagulable changes in haemostasis during this procedure. However, such tendency for hypercoagulation in the course of IVF may lead to the impairment of embryo implantation and placental blood circulation that is presumed to be a risk factor for an unsuccessful IVF cycle. Global assays of haemostasis indicated procoagulable changes during IVF.

**Methodology & Theoretical Orientation:** The authors present the results of the single-centre study of patients who previously underwent IVF cycles. Blood samples (BS) were taken at five time points: 1st at 10-12 week of the pregnancy, 2nd at 16-18 week, 3rd at 26-28 week, 4th at 35-36 week and 5th at 6-8 week after delivery. They analyzed the results of platelet count, D-dimers, factor VIII activity, protein S function, anti-Xa activity and ProC Global ratio.

**Findings:** The study revealed the progression of hypercoagulation during pregnancy up to BS4: levels of D-dimers and factor VIII activity increased, protein S function decreased and ProC Global ratio was also below the reference range. These parameters started to normalize at BS5. Based on the results, the change in LMWH dose was recommended most frequently in BS4 and in one patient in BS3.

**Conclusion & Significance:** Besides the clinical state of the patient, parameters of haemostasis may be useful indicator of the need to modify the dose of LMWH to improve the outcome of IVF.

### Biography

Lucia Stanciakova was awarded the degree Doctor of Medicine in 2013 and completed her postgraduate study in 2017. Now she works as a haematologist and assistant lecturer at the National Centre of Haemostasis and Thrombosis, Department of Haematology and Transfusion Medicine, Comenius University in Bratislava, Jessenius Faculty of Medicine in Martin, Slovakia. Her research interest includes thrombophilic states and their genetics, haemostasis in vascular disorders and oncological diseases, high-risk pregnancy, monitoring of the effectiveness of direct oral anticoagulants and antiplatelet treatment. She is a member of Slovak Society for Haemostasis and Thrombosis, previous Overseas Fellow of The Royal Society of Medicine and a member of the International Society on Thrombosis and Haemostasis. Dr. Stanciakova won the 2015 Eberhard F. Mammen Young Investigator Award of the Seminars in Thrombosis and Hemostasis and Young Investigator Award of the 18th International Meeting of Danubian League against Thrombosis and Haemorrhagic Disorders.

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