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Haemostatic system changes during pregnancy and puerperium

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Abstract

Background: The activity in the hemostasis system is determined by two opposite processes that function simultaneously – blood clotting (fibrin clot formation) and fibrinolysis (the process of fibrin clot breakage). A normal balance between the processes of coagulation and fibrinolysis produces neither coagulation nor lysis, and vice versa, the imbalance of these processes is potentially dangerous in the development of coagulopathic or lytic events. Both systems (coagulation and fibrinolysis) undergo substantial changes in the physiological pregnancy, changes in an increase of coagulation factors concomitant with a decrease of anticoagulants and suppression in the fibrinolysis system. The predominance of prothrombotic activity gives the pregnancy a hypercoagulable status, with an increased risk of intravascular thrombi formation and thromboembolic complications (e.g. venous thrombosis, DIC syndrome). On the other hand, physiological hypercoagulation during pregnancy contributes to preventing the loss of blood during the immediate postpartum period by providing hemostasis in placental wounds and birth pathways.

Conclusions: The hemostasis system in pregnant women is marked by an increase in coagulation at each stage (from endothelium to circulatory factors of coagulation) which presumes the risk of thrombo-embolic complications, and the inhibition in the fibrinolytic system prevents peripartum bleeding.

Key words: haemostatic system, pregnancy, puerperium.