

### **A Novel Diagnostic Kit for early detection of Hypercoagulation (BioRap)**

**A kit which greatly shortens time and improves accuracy required to diagnose blood coagulation problems, and improves the design of personalized treatment regimen, is being developed by Prof. Brenner and Dr. Aharon and clinically tested and the Rambam Medical center**

Hypercoagulation is a term used to describe a group of conditions in which there is an increased tendency for excessive clotting, which may result in thrombosis. There is also an increased tendency in certain individuals to develop clots in a variety of disease and during long airplane flights. To illustrate the importance of thrombosis research, the US surgeon general has introduced the prevention of venous thrombo embolism (VTE) as a top priority for 2008. Hypercoagulation can result from an increase in the level of microparticles found in the blood. These microparticles which are found in everyone's blood, are released from a variety of cells: endothelial cells, platelets, white blood cells and others. An increased number of these microparticles have been identified in many individuals with certain conditions and diseases, such as cancer, acute coronary syndromes, diabetes mellitus and idiopathic pregnancy loss.

Currently, tests to identify hypercoagulation states are limited. However Prof. Benjamin Brenner and Dr Anat Aharon and their research team at The Rappaport Family Research Institute, are developing a kit which will improve the method used for the determination of blood coagulation and will help to identify those at risk for thrombosis. Hypercoagulation predicts an elevated risk for a thrombotic event, while hypocoagulation is associated with a bleeding tendency. TF (Tissue Factor) is the initiator of blood coagulation while TFPI (Tissue Factor Pathway Inhibitor) acts as an inhibitor of the coagulation process. Coagulation status is normal if the ratio of TF to TFPI is below 1. Coagulation status demonstrates hypercoagulability when the ratio is above 1 and vascular complications and risk for thrombotic events when the ratio is above 3

Prof. Brenner and Dr. Aharon kit which measures the TF to TFPI ratios could greatly improve the diagnosis and treatment of patients in a hypercoagulation state. On one hand the time and accuracy required to diagnose coagulation problems will be greatly shortened while at the same time, the design of a treatment regimen designed for a particular patient, based on his/her coagulation status will be greatly improved.

The method is presently being clinically tested at the Rambam Medical Center in Israel.

Related Links: Inventor

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