

Coagulometer for Comprehensive Assessment of Trauma-induced Coagulopathy

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Need

Traumatic hemorrhage and trauma-induced coagulopathy (TIC) are primary causes of mortality in the U.S with more than 25% of severely injured patients have significant coagulopathy. TIC can develop immediately after injury, making early identification and treatment critical. TIC must be treated with hemorrhage control, transfusion, and resuscitative strategies as early as possible to improve survival probability. However, effective guidance and implementation of such strategies require a comprehensive assessment of coagulopathic status, including platelet dysfunctions, defects in thrombin and fibrin generation, as well as hyperfibrinolysis (and possible fibrinolysis shutdown), spanning the spectrum of TIC.

Clinically coagulopathy assessment is mostly carried out via the utilization of plasma-based biochemical coagulation assays (e.g., prothrombin time/international normalized ratio (PT/INR), activated clotting time (ACT) and activated partial thromboplastin time (aPTT)), all of which are time-consuming methods and none of which by itself can provide comprehensive sensitive assessment of TIC. Unfortunately for trauma patients, access to such comprehensive assessments not always possible in a timely manner to guide TIC management.

Solution

TraumaChek employs dielectric spectroscopy, the quantitative measurement of how an external electric field interacts with the electric dipole moment of a material sample (e.g., blood) to create a platform technology for electronic, label-free, and minimally invasive assessment of TIC.

Device

Solution (con't)

Opportunities were filed in

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Intellectual Property

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