[P-S-390] TISSUE PLASMINOGEN ACTIVATOR (RTPA) INDUCED FIBRINOLYSIS - STANDARDIZATION OF METHOD ON THROMBELASTOGRAPHY

O.A. Kupesiz, M. Chitlur, M.A. Rajpurkar, J. Lusher, W. Hollon, I. Warrier. Department of Pediatrics, Akdeniz University, Antalya, Turkey; Pediatric Hematology; Department of Pediatrics, Wayne State University, Children's Hospital of Michigan, Detroit, United States

Introduction: Hereditary or acquired defects of fibrinolysis can cause bleeding or thrombosis. Currently, the methods to evaluate fibrinolysis are inadequate. Using whole blood (WB), Thrombelastography provides graphic representation of clot formation and lysis. The study objective is to standardize the method for evaluation of fibrinolysis using TEG®.
Methods: Citrated blood samples were collected from healthy adult volunteers (8 males, 9 females). Tissue factor (TF) was used to initiate clotting and rTPA was used to induce in vitro fibrinolysis. Lysis at 30 (Ly30), 60(Ly60) and 90 (Ly90) minutes were analyzed using the TEG®.
Results: After titrating TF, reproducible coagulation parameters were produced with 1/500 TF concentration in 0.2% BSA/0.2M CaCl2 solution. By using 0.2% Saline/BSA solution as diluent for rTPA, consistent and comparable lysis parameters were obtained. At 50 ng/mL of rTPA, complete lysis was seen in three hours. To minimize heterogeneous distribution of rTPA in the TEG® cup, various mixing techniques were performed and best results were seen by gently mixing and inverting WB and rTPA in a vial and then pippetting into a preloaded cup.Intra-assay analysis showed the mean coefficient of variation (CV%) of Ly60 to be 9.36 (range 3.18-17.03) and of Ly90 to be 5.26 (range 1.4-9.3).
Conclusions: Variability in the fibrinolysis parameters between subjects was seen. In the same subject, TEG® tracings, coagulation and fibrinolysis parameters were consistent and reproducible. We anticipate that this assay can used to measure the intrinsic fibrinolytic potential of whole blood.
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