

COMPARISON TWO LABORATORY ASSAYS IN MONITORING EFFICACY OF DIFFERENT PROPHYLAXIS REGIMENS FOR SEVERE HAEMOPHILIA

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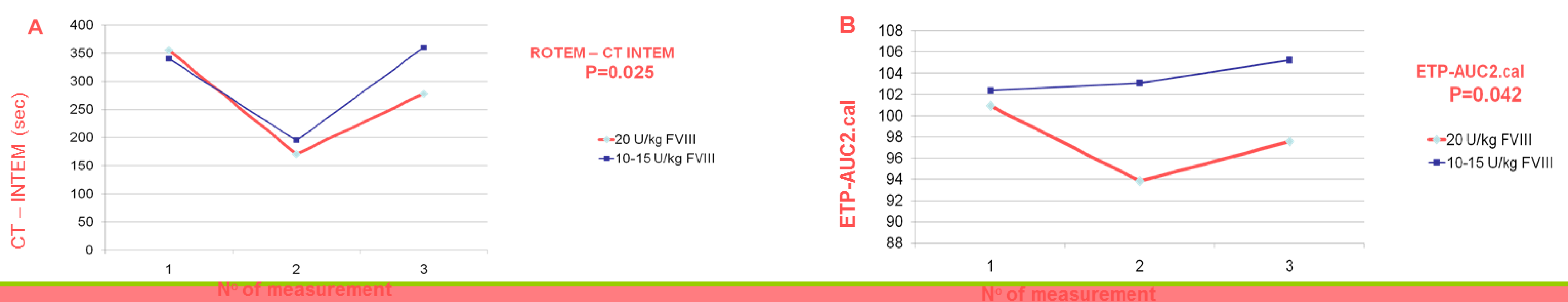
Objectives:

The objective of this study was to compare validity of two laboratory assays – rotating thromboelastometry (ROTEM) and endogenous thrombin potential (ETP) in monitoring and evaluating different prophylactic treatment regimens in patients with severe haemophilia.

Methods:

This study included 20 adults patients with severe haemophilia, without inhibitor. Five patients with haemophilia A were received prophylaxis with factor VIII (FVIII) concentrate in standard dose 20 IU/kg three times per week, five patients with haemophilia A were received low dose of FVIII concentrate as prophylaxis, 10-15 IU/kg three times per week. Seven patients with haemophilia A and 3 with haemophilia B, were received FVIII/IX concentrate only on-demand. In patients on prophylactic therapy, ROTEM and ETP were done initially before start of prophylaxis, in addition, 20 minutes after application of first prophylactic dose and afterwards 3 months, before receiving next prophylactic dose. In patients treated only on-demand, ROTEM and ETP were done twice per three-months period. In ROTEM, clotting time (CT) in intrinsic system (INTEM) was measured, whereas in ETP, calculated values of area under the thrombin generation curve (ETP.AUC2.cal) and calculated values of maximal clotting (ETP.Cmax.cal) were estimated.

Figure 1: A: ROTEM – CT IN INTEM and B; ETP –AUC2.cal were measured initially before start of prophylaxis with FVIII (1), 20 minutes after application FVIII (2) and three months after prophylactic treatment (3) with two different regimens



Results:

In group on standard prophylactic dosis, CT in ROTEM/INTEM ($p=0.025$) and ETP.AUC2.cal ($p=0.042$) were significantly improved after 3 months in compare with patients with lowe prophylactic dosis ($p=0.042$). ETP.Cmax was not significantly changed between these groups. In patients treated only on-demand, ROTEM and ETP values were not changed.

Conclusions:

Prophylaxis with standard dosis of 20 IU/kg three times per week provides adequate haemostasis in compare with lowe prophylactic dosis. ROTEM and ETP enable appropriate monitoring of therapy's efficacy. ROTEM and ETP can be useful for treatment's modalities monitoring and evaluation in patients with haemophilia.

References:

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2. Bummel-Ziedins KE, Whelihan MF, Gissel M, Mann KG, Rivard GE. Thrombin generation and bleeding in haemophilia A. *Haemophilia* 2009 (15): 1118-1125.

