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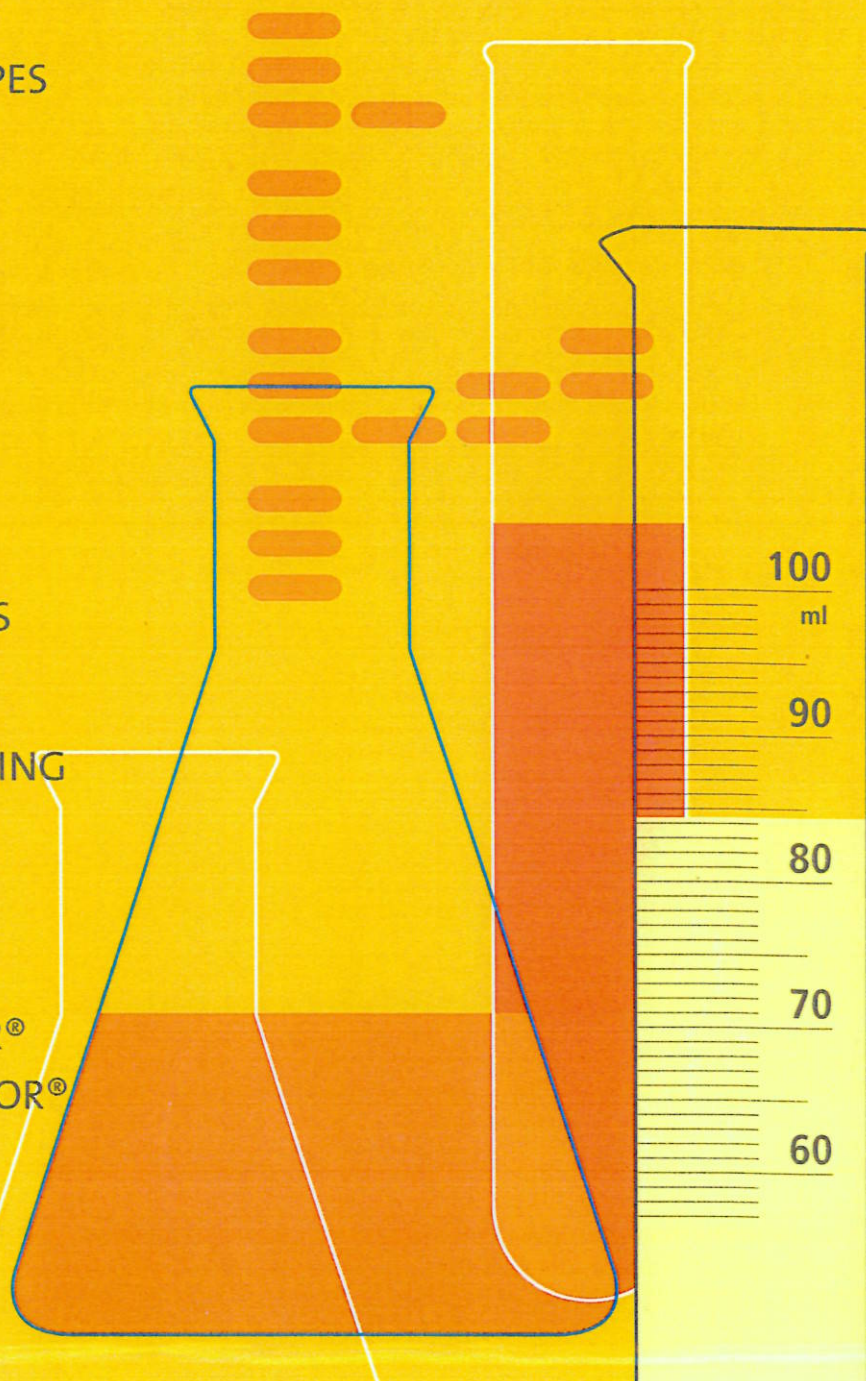
PAPILLOMAVIRUS GENOTYPES
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METHYLATION STATUS OF
OPIOID BINDING PROTEIN
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SHORT COMMUNICATION

Correlation Between Rotation Thrombelastometry ROTEM® Analysis and Standard Haemostatic Parameters During Liver Transplantation

ASSIA STANCHEVA¹, LUBOMIR SPASSOV¹, KAMEN TZATCHEV²

¹ University Hospital "Lozenetz", Sofia, Bulgaria

² Medical University, Sofia, Bulgaria

SUMMARY

Background: The determination of the correlations between simultaneously performed rotation thrombelastometry ROTEM® analysis and standard haemostatic analysis during liver transplantations is indispensable for performing an adequate perioperative haemostatic monitoring.

Methods: Perioperative haemostatic monitoring was performed to 30 patients undergoing orthotopic liver transplantation (13 male (42 %) and 17 female (58 %), age: (mean \pm SD; 21 \pm 17 years). Standard coagulation parameters (PT, APTT, FIB) were assessed chronometrically on STA-Compact Analyzer (Diagnostic Stago – La Roche), rotation thrombelastometry analyses - on ROTEM® analyzer (Petapharm GmbH) and platelets (PLT) – on Cell Dyn 3700 (Abbott Diagnostica), MAPSS technology.

Results: A protocol was successfully developed for the implementation of perioperative haemostatic control during orthotopic liver transplantations, performing parallel thrombelastometric and standard haemostatic analyses. Significant correlation was established between PT(INR) and EXTEM_CFT ($r = 0.834$; $p < 0.001$) and between APTT and INTEM_CFT ($r = 0.707$; $p < 0.001$) in the preoperative period (R1). The correlation was reduced to insignificant during the intraoperative periods (R2-R5) and two hours postoperatively (R6). Significant correlation was determined between PLT / INTEM and between FIB / MCF_FIBTEM during all perioperative periods (R1 – R6).

Conclusions: The correlations found in the present study suggest to perform the haemostatic liver transplantation monitoring through a parallel systematic analysis of both standard and rotation thrombelastometry parameters and confirm the ROTEM® method as preferable and highly informative.

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KEY WORDS

Liver transplantation; rotation thrombelastometry ROTEM®; correlation

INTRODUCTION

Massive hemorrhage is one of the leading complications during liver transplantation. The necessity of continuous and intensive haemostatic monitoring is essential in the perioperative periods, including urgent clinical-laboratory differential diagnoses of the current coagulopathies, suggestions for medicamentous or substitutive therapy and tracing the effect of the applied treatment (6, 7).

The routinely used standard haemostatic parameters, their prognostic value in predicting bleeding disorders with necessity of haemotransfusion and their possibilities for diagnostics of hyper or hypocoagulable states are not sufficiently quick or informative, when concerning dynamic coagulation changes during liver transplantation (8).

The recent development of the modified rotation thrombelastography method with ROTEM® analyzer (Petapharm GmbH, Germany) makes possible the performance of an extended perioperative haemostatic and therapeutic control of the primary and secondary haemostasis, coagulation kinetics, clot firmness, fibrin-platelets interaction and activated hyperfibrinolysis, during liver transplantation (1, 4).

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