

Ahstract

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International Normalized Ratio (INR), coagulation factor activities and calibrated automated thrombin generation - influence of 24 h storage at ambient temperature.

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Abstract

International Normalized Ratio (INR) measurements are used to monitor oral anticoagulation therapy with coumarins. Single coagulation factor activities and calibrated automated thrombin (CAT) generation are considered as more advanced methods for evaluating overall haemostatic capacity. The aims were to assess the variability of INR, coagulation factor activities, and CAT, during 24 h of storage of blood samples at ambient temperature. A total of 24 patients on stable coumarin treatment were followed prospectively for 6 weeks. INR was analyzed at 0, 6 and 24 h after blood sampling and 1-stage clotting activity of coagulation factors II, VII, IX, and X as well as CAT generation was recorded after 0 and 24 h respectively. Statistical analyses included Bland-Altman plot, 95% limits of agreement, and a variability test using a mixed effect model. The level of INR remained statistically unchanged from 0 to 6 and 24 h of storage. Coagulation factor activities and CAT revealed no significant difference induced by 24 h of storage, although the limits of agreement were wide. Patients' individual INR, coagulation factor activities, and CAT generation were not significantly influenced by 24 h storage of blood samples, but for the CAT generation analyses a trend toward time dependency was detected.

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