THE EFFECT OF STORAGE TIME OF CITRATED WHOLE BLOOD SPECIMENS BEFORE CENTRIFUGATION ON RESULTS OF COAGULATION TESTING

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Citrated blood specimens received in some laboratories for coagulation testing such as prothrombin time (PT), Activated Partial Thromboplastin Time (APTT), and Thrombin Time (TT) are stored for long periods due to many reasons. The objective of this randomized complete block design study was to describe the effect of storage time of uncentrifuged citrated blood specimens on results of testing. Blood samples were collected from 40 selected patients coming to General Hospital, Kalutara. PT, APTT and TT tests were performed after phlebotomy at specified times up to 8hours (0-2 hours baseline, 4 hour and 8 hours at room temperature) using coagulation analyzer. The results were evaluated using paired t-test and $P \leq 0.05$ was considered to be statistically significant. Mean PT, APTT and TT values of samples stored for 4 hours and 8 hours before centrifugation were compared with the mean values obtained at 0-2 hours. When samples were stored for 0-2 hours, 4 hours and 8 hours the mean(SD) PT were 20.96 (8.17), 21.85 (8.96) and 24.06 (10.17) respectively and the mean(SD) APTT were 42.77 (13.69), 48.27(16.29) and 54.03 (18.12) respectively while mean(SD) TT values were 16.16 (4.31), 18.04 (3.82)and 18.78 (4.04) respectively. When samples were stored for 4 hours and 8 hours at room temperature, significant differences were found in mean PT (p=0.001), APTT (p=0.001) and TT (p=0.001) compared to mean of samples stored for 0-2 hours. Storage of blood after collection for a longer period elicited a statistically significant increase in the normal PT, APTT and TT results and abnormal PT, APTT and TT results. Therefore, above tests should be determined within 2 hours of blood collection.

Keywords: Prothrombin Time, Activated Partial Thromboplastin Time, Thrombin Time