

The CA-1 Test as a New Method for Monitoring Liver Dysfunction

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Abstract : Recent studies have focused on the fact that liver dysfunction is associated with the prothrombin time (PT) and hepaplastin test (HPT). We developed a new test to determine the prothrombin levels using the Carinactivase-1 (CA-1) test for liver dysfunction. Total plasma samples were assayed for the CA-1 test, PT and HPT. This prospective randomized study was carried out in 47 samples. The samples were divided into 2 groups. Group 1 included 20 samples and group 2 included 27 samples. Group 1 consisted of samples from individuals with no liver dysfunction, while Group 2 comprised samples from patients with liver dysfunction. The mean prothrombin level (CA-1 score) were measured using the CA-1 test in groups 1 and 2. The mean value was 119.4 μ g/ml in group 1 and 95.8 μ g/ml in group 2. The CA-1 score of group 2 decreased more significantly than in group 1 ($p < 0.05$). Even the prothrombin time international normalized ratio (PT-INR) decreased more significantly in group 2 than in group 1. Therefore, the HPT was not significantly different between groups 1 and 2. Consequently, the CA-1 test is a quantitative analysis. In contrast, the PT and HPT are qualitative analyses. Therefore, the CA-1 test is considered to be superior to the PT and HPT. The CA-1 test is therefore considered to be more useful for monitoring liver dysfunction than HPT.

Key words : Liver dysfunction, Prothrombin time, Carinactivase-1, Hepaplastin test