

Clinical Utility of Highly Sensitive Measurement of the PIVKA- in Anticoagulant Therapy Patients Treated with Warfarin

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Abstract : We studied the clinical utility of highly sensitive measurement of the PIVKA- in anticoagulant therapy in patients receiving warfarin. From May 1997 until January 1999, 131 patients were examined. Group A consisted of 29 patients who were not treated with warfarin. Group B consisted of 102 patients who were given a mean warfarin dose of 2.6 ± 1.1 mg/day. The mean PIVKA- levels were 25.5 ± 5.5 (mAU/ml) in group A and 17472.0 ± 8766.7 (mAU/ml) in group B. The PIVKA- levels in group A showed lower values than in group B and the difference was significant($p < 0.0001$). In group B, the PIVKA- levels correlated with the prothrombin levels ($r = -0.59$, $p < 0.0001$). In addition, the PT-INR levels also correlated with the PIVKA- levels ($r = 0.68$, $p < 0.0001$), and the TT levels correlated with The PIVKA- levels($r = 0.69$, $p < 0.0001$). The above findings showed PIVKA- levels to closely correlate with the prothrombin levels, PT-INR and TT. In the relatively narrow PT-INR range of 2.0 to 3.0, the PIVKA- concentration showed levels of 18383 to 32315 (mAU/ml), while the prothrombin concentration showed levels of 55.4 to 25.3 (μ g/ml) and the TT concentration showed of 20.7 to 6.7 (%). In conclusion, the measurement of high sensitivity PIVKA- is therefore considered to accurately reflect the coagulant system. These findings suggest that the measurement of highly sensitive measurement of the PIVKA- appears to be an effective monitoring method for patients on warfarin therapy.

Key words : Warfarin, Anticoagulant therapy, PIVKA, Prothrombin level, Carinactivase-1