The correlations between anti-factor Xa activity values and PT/APTT at peak and trough times in patients with venous thromboembolism using high dose of apixaban

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Background: The high dose (20mg/day) of apixaban is used for the initial treatment of venous thromboembolism for the first week. Although patients taking direct oral anticoagulants do not require routine coagulation monitoring, the correlations between anti-factor Xa activity (AXA) and routine coagulation markers such as prothrombin time (PT) and activated partial thromboplastin time (APTT) at peak and trough times especially when using high dose of apixaban have not been reported so far.

Purpose: The purpose is to assess the correlations between AXA values and PT/APTT at peak and trough times in patients with venous thromboembolism using high dose of Apixaban.

Methods: Twenty-six patients (10 male; 71±15 years) with proximal venous thromboembolism or pulmonary embolism using high dose (20mg/day) of apixaban were enrolled. We measured AXA, using chromogenic assay with the HemosIL Liquid Heparin kit, PT and APTT at peak and trough times. The peak time was defined as 3 hours after the intake of apixaban, and the trough time was defined as that immediately before the intake of apixaban.

Results: A significant and strong positive correlation was observed between AXA and PT at both peak and trough times (R=0.795, $p<0.01$ and R=0.766, $p<0.01$, respectively). A significant and moderate positive correlation was observed between AXA and APTT at trough time (R=0.527, $p<0.01$), but no correlation was observed between AXA and APTT at peak time (R=0.366, p=0.07).

Conclusion: Our findings reveal the relationship between AXA and PT at peak and trough times has a significant strong correlation. These results suggest measuring of PT may be alternative and effective way of monitoring of AXA values when using high dose of apixaban.

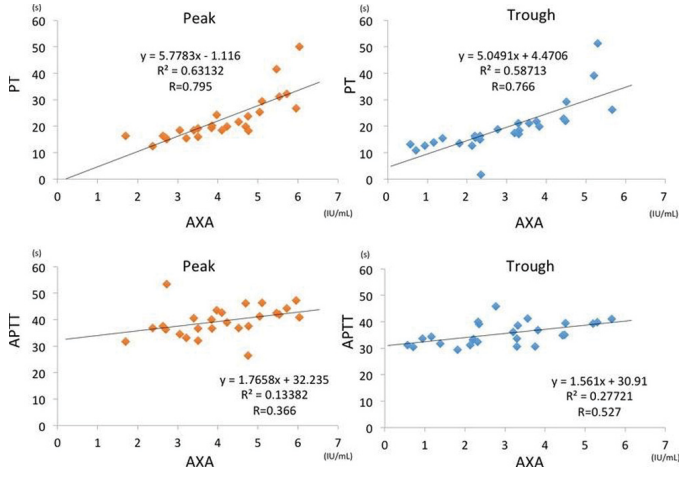

Figure 1