A380 - Anti factor xa (afxa) activity monitoring in a mixed icu patient population – are we giving enough enoxaparin to our patients?

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Introduction:
Most patients in the ICU are given prophylactic anticoagulation with a fixed dose of 40 mg once daily of Enoxaparin (clexane) if CCT is normal and 20 mg if CCT is low. Studies on non ICU patients have shown that AFXa is below desired range for venous thromboembolism (VTE) prevention. In the ICU, many factors might influence AFXa levels including weight, creatinine clearance (CCT), shock and other medication. ATXa activity was not yet reported in a big mixed ICU population with variable morbidity. Our study hypothesis is that Enoxaparin is underdosed in most cases and routine AFXa activity should be monitored in all ICU patients.

Methods:
Preventive Enoxaparin (40 mg qd) was given to all patients unless therapeutic dose was needed or contraindication existed. Levels of AFXa activity were taken 4 hours after the 3rd dose. Therapeutic VTE preventive effect was defined as AFXa activity of 0.2-0.5. Patient data was collected from medical files.

Results:
The study is still ongoing, preliminary results were analyzed for 31 patients. 14 of 31 patients (45%) had AFXa activity below normal (subtherapeutic). Weight and CCT were negatively correlated with AFXa activity (fig 1). Mean weight in the subtherapeutic AFXa was significantly higher than the therapeutic group (83.2 vs. 72.6 respectively, p=0.031). CCT in the subtherapeutic AFXa was significantly higher than the therapeutic group (95.1 vs. 60.4 respectively, p=0.003). The normal CCT group (>50) had significantly more patients with subtherapeutic AFXa (13 vs 8, p=0.017).

Conclusion:
In our ICU, 45% of the patients receive insufficient VTE prophylaxis. Overweight patients and patients with normal CCT should probably receive higher Enoxaprin dose. AFXa activity should be routinely monitored in ICU patients.

Image :

![Image showing correlation of anti-factor Xa activity with patient creatinine clearance and weight. Anti FXa activity value below 0.2 (red line) was considered "non-effective prevention".](image-url)