

Clipboard

1 result

[Remove from Clipboard](#)

1. PMID: 32833716

[Heparin Anti-Xa Activity, a Readily Available Unique Test to Quantify Apixaban, Rivaroxaban, Fondaparinux, and Danaparoid Levels.](#)

Boissier E, Senage T, Babuty A, Gouin-Thibault I, Rozec B, Roussel JC, Sigaud M, Ternisien C, Trossaert M, Fouassier M, Lakhali K.

Anesth Analg (IF: 5.11; Q1). 2021 Mar 1;132(3):707-716. doi: 10.1213/ANE.0000000000005114.PMID: 32833716 [Hide Abstract](#)

BACKGROUND: Despite their usefulness in perioperative and acute care settings, factor-Xa inhibitor-specific assays are scarcely available, contrary to heparin anti-Xa assay. We assessed whether the heparin anti-Xa assay can (1) be used as a screening test to rule out apixaban, rivaroxaban, fondaparinux, and danaparoid levels that contraindicate invasive procedures according to current guidelines (>30 ng·mL⁻¹, >30 ng·mL⁻¹, >0.1 µg·mL⁻¹, and >0.1 IU·mL⁻¹, respectively), (2) quantify the anticoagulant level if found significant, that is, if it exceeded the abovementioned threshold. **METHODS:** In the derivation cohort then in the validation cohort, via receiver operating characteristics (ROC) curve analysis, we evaluated the ability of heparin anti-Xa assay to detect levels of factor-Xa inhibitors above or below the abovementioned safety thresholds recommended for an invasive procedure (screening test). Among samples with relevant levels of factor-Xa inhibitor, we determined the conversion factor linking the measured level and heparin anti-Xa activity in a derivation cohort. In a validation cohort, the estimated level of each factor-Xa inhibitor was thus inferred from heparin anti-Xa activity. The agreement between measured and estimated levels of factor-Xa inhibitors was assessed. **RESULTS:** Among 989 (355 patients) and 756 blood samples (420 patients) in the derivation and validation cohort, there was a strong linear relationship between heparin anti-Xa activities and factor-Xa inhibitors measured level ($r = 0.99$ [95% confidence interval {CI}, 0.99-0.99]). In the derivation cohort, heparin anti-Xa activity ≤ 0.2 , ≤ 0.3 , < 0.1 , < 0.1 IU·mL⁻¹ reliably ruled out a relevant level of apixaban, rivaroxaban, fondaparinux, and danaparoid, respectively (area under the ROC curve ≥ 0.99). In the validation cohort, these cutoffs yielded excellent classification accuracy ($\geq 96\%$). If this screening test indicated relevant level of factor-Xa inhibitor, estimated and measured levels closely agreed (Lin's correlation coefficient close to its maximal value: 95% CI, 0.99-0.99). More than 96% of the estimated levels fell into the predefined range of acceptability (ie, 80%-120% of the measured level). **CONCLUSIONS:** A unique simple test already widely used to assay heparin was also useful for quantifying these 4 other anticoagulants. Both clinical and economic impacts of these findings should be assessed in a specific study.

FOLLOW NCBI



Connect with NLM

National Library of Medicine
8600 Rockville Pike
Bethesda, MD 20894[Web Policies](#)[FOIA](#)[Help](#)[Accessibility](#)[Careers](#)[NLM](#) [NIH](#) [HHS](#) [USA.gov](#)