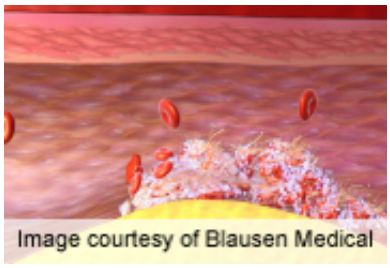
Non-vitamin K oral anticoagulants vary in assay effects

12 September 2014



(HealthDay)—Non-vitamin K oral anticoagulants exhibit variable effects on coagulation assays, according to a study published in the Sept. 16 issue of the *Journal of the American College of Cardiology*.

Adam Cuker, M.D., from the University of Pennsylvania in Philadelphia, and colleagues conducted a systematic literature review to identify studies reporting a relationship between drug levels of dabigatran, rivaroxaban, and apixaban and coagulation assay results.

The researchers identified 17 studies for dabigatran, 15 for rivaroxaban, and four for apixaban. They found that a normal thrombin time excludes clinically relevant drug concentrations for dabigatran. There is lower sensitivity for the activated partial thromboplastin time (APTT) and prothrombin time (PT), which may be normal at trough drug levels. There is excellent linearity across on-therapy drug concentrations for dilute thrombin time (R^2=0.92 to 0.99) and ecarin-based assays (R^2=0.92 to 1), which may be used for drug quantification. Anti-Xa activity is linear (R^2=0.89 to 1) for rivaroxaban and apixaban over a wide range of drug levels. It may be used for drug quantification, with undetectable anti-Xa activity likely excluding clinically relevant drug concentrations. Especially for apixaban, PT is less sensitive and a normal PT may not exclude clinically relevant levels. There is insufficient sensitivity and linearity for quantification with APTT.

"Understanding these effects facilitates interpretation of test results in non-vitamin K oral anticoagulant-treated patients," the authors write. Several authors report financial ties to the pharmaceutical industry.

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