Rivaroxaban (Xarelto) Levels

Effective May 20, 2013 the Clinical Laboratory will begin performing a test to measure rivaroxaban (Xarelto, Bayer Healthcare AG). The drug is a new oral direct anti-Xa anticoagulant used for stroke prevention in atrial fibrillation, venous thromboembolism prevention in post-orthopedic surgery, and treatment for venous thromboembolism. While not routinely monitored, in certain circumstances the determination of rivaroxaban levels may be indicated. The method employed is a chromogenic anti-Xa assay, similar to heparin level testing, using drug-specific calibrators and controls. The lower limit of detection for this method is <10ng/ml.

Sample Requirements

Collect: 2.7 mL sodium citrate tube (blue top with liquid)
Specimen Preparation: 0.5 mL citrated plasma
Pediatric Collection Transportation: 1.8 mL sodium citrate tube
Storage/Transport: Deliver at room temperature to the laboratory for immediate processing. If sample cannot be delivered to the laboratory within 2 hours of collection, centrifuge sample to obtained platelet poor plasma and send frozen.
Stability: After separation from cells: room temperature 4 hours; frozen 3 months.
Unacceptable Conditions: Sample type other than citrated plasma.

Reference Interval and result comment: For trough levels (just before next dose):
Routine monitoring of Rivaroxaban (Xarelto) serum levels is not currently recommended, with only limited data available for use in patients receiving this drug. Results can vary depending on selected factors such as indication, renal function, daily dose and frequency of administration, with or without food etc. In the Einstein-DVT-Dose-Ranging Study (Blood 2008;112:2242-2247), patients receiving 20mg rivaroxaban once daily for continued DVT treatment had median trough drug levels of 32ng/ml (19-60ng/ml interquartile range). For further assistance regarding rivaroxaban plasma levels please contact anticoagulation pharmacists (pager 816-2568).

For technical questions, please contact Bob Gosselin at 916-734-2490. For other questions or additional information please contact Laboratory Client Services at 916-734-7373 or email pathologyclientservices@ucdmc.ucdavis.edu.