

Anticoagulation: New developments in laboratory tests.

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The more recent specific anticoagulants include the oral reversible factor Xa inhibitors (e.g. rivaroxaban), and the oral reversible thrombin inhibitors (e.g. dabigatran), and their competitors in clinical development.

A common theme for these specific anticoagulants is that they have remarkably limited effects in their therapeutic range on traditional routine clotting assays such as PT and APTT.

Rivaroxaban has very limited effects on the PT.

Reversible thrombin inhibitors (rDTIs) show very limited effects in the PT, but some have more pronounced effects in the APTT.

To assess these specific anticoagulants specific assays for anti-Xa and anti-IIa action have been proposed. These methods concern both chromogenic assays and clotting assays.

We evaluated specific clotting assays in relation with modified or specific traditional clotting assays.

We observed that diluted PT reagents are sensitive to reversible thrombin inhibitors and compete in sensitivity with Ecarin clotting times.

We observed that there is a specific PT reagent very sensitive to rivaroxaban and competes with sensitivity with the PiCT.

It is suggested that with existing reagents an approach to testing of reversible thrombin and factor Xa is possible and carries the advantage of rapid introduction. The utility of this retro-approach will be discussed.