Effect of Various Anticoagulants On Commonly Used Coagulation Assays

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Coagulation Assays	VKA (Influence)	UFH (Influence)	LMWH (Influence)	Rivaroxaban (Influence)	Apixaban (Influence)	Edoxaban (Influence)	Dabigatran (Influence)
PT	↑	no effect or ↑[1]	=	↑	no effect or ↑ (weak)	↑ (weak)	↑
aPTT	↑	↑	no effect or ↑ (weak)	↑	no effect or ↑ (weak)	↑ (weak)	↑
Fibrinogen (Clauss Method)	=	↓	=	=	=	=	= / ↓
Thrombin Time TT	=	↑	↑	=	=	=	↑
Factor Assays (clotting assays)	↓ (FIX;VII,X and II) no effect for the others	aPTT based: ↓[2] PT based: =	aPTT based: ↓[2] (weak) PT based: =	↓[2]	↓[2] (weak) / =	↓[2]	↓[2]
DDi, VWF: Ag, VWF: RCo	=	=	=	=	=	=	=
Anti-Xa Activity (UFH or LMWH)	=	↑	↑	↑	↑	↑	=
Antithrombin Activity FXa-based Assay	=	↓	=	↑[3]	↑[3]	↑[3]	=
Antithrombin Activity FIIa-based Assay	=	↓	=	=	=	=	↑[3]
Protein C Activity Clot-based Assay	↓	↑[3]	=	↑[3]	↑[3]	↑[3]	↑[3]
Protein C Activity Chromogenic Assay	↓	=	=	=	=	=	=
Protein S Activity Clot-based Assay	↓	↑[3]	=	↑[3]	↑[3]	↑[3]	↑[3]
Free Protein S Ag (Immunological Assay)	↓	=	=	=	=	=	=
Lupus Anticoagulant Testing: "sensitive" aPTT and dRVVT (screening, mixing, confirmation)	↑[4]	↑[4]	=	↑[4]	↑[4]	↑[4]	↑[4]
Resistance to Activated Protein C	↑[5]	↑[1]	=	↑[3]	↑[3]	↑[3]	↑[3]
Reptilase Time	=	=	=	=	=	=	=

"↑" increase "↓" decrease "=" no effect

(1) Would only be affected in the presence of UFH if the heparin neutralizer in the reagent was overwhelmed

(2) Factitiously low

(3) Factitiously over estimated potentially leading to a falsely normal result

(4) Factitiously positive, possible to misclassify as LA present

(5) APTT- based APCR with added FV deficient plasma can be factiously elevated or decreased ratio possible

VKA: Vitamin K Antagonist

UFH: Unfractionated Heparin

LMWH: Low Molecular Weight Heparin

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