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Combined effect of *CYP2C9* and *VKORC1* polymorphisms on warfarin maintenance dose in Omani patients

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ABSTRACT

Excepting host genetic factors, other influences on the pharmacokinetic and pharmacodynamic behavior of warfarin are subject to variations during the treatment despite attempts to stabilize the INR. In 214 Omani patients on warfarin therapy, we evaluated the extent of influence of known genetic predictors of warfarin dose variability, namely *CYP2C9*, *CYP4F2* and *VKORC1* gene polymorphisms in a genetically heterogeneous patient population. When patients were stratified according to their daily warfarin maintenance dose (to maintain INR between 2 and 3) into "low dose" (sensitive), "medium dose" (intermediate) and "high dose" (resistance) groups, overall, seven patients with three or four mutant alleles fell in the sensitive group and consequently 25% (7 out of 28) of at risk patients for over anticoagulation can be recognized by prospective pharmacogenetic testing in this patient population. Pre-prescription genotyping of these loci prior to therapy initiation will therefore benefit a small fraction of this population.

KEYWORDS

CYP2C9; CYP4F2; VKORC1; Pharmacogenetics; Polymorphism; Omani

Cite this paper

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