Simplified Warfarin Dosing Formula to Guide Initiating Dose in Thai Patients

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Background: The warfarin-related bleeding occurred most commonly during the first three months of therapy, possibly due to overdosing of warfarin initiation. Previous small study reported that 3-mg warfarin initiating dose appears to be safe in Thai patients.

Objective: We sought to compare the performance of simplified warfarin dosing formula and 3-mg initiating dose to predict actual warfarin dose for achieving therapeutic range of INR.

Methods: This was a retrospective study including 640 patients (age≥15 years) who received warfarin with the target INR of 2.0-3.0. The actual warfarin dose was defined as warfarin dose resulting in INR 2.0-3.0 at least 2 consecutive follow-ups after initiation. The simplified warfarin dosing formula was 3.2-(0.03xage-year) + (0.02xbody weight-kg) (10% dose reduction if presence of heart failure (HF) and/or stroke). The optimal dosing was defined as difference from actual dose within 20%.

Results: Mean age was 65±13 years. Non-valvular atrial fibrillation was present in 69% of patients. The mean actual dose of warfarin was 2.8±1.2 mg. The warfarin dosing formula resulted in optimal dosing in 41% and overdosing in 21%; whereas, 3-mg initiating dose resulted in optimal dosing in 39% and overdosing in 43% of patients. In patients with HF and/or stroke, using the formula resulted in overdosing in 23%; whilst, 3-mg initiating dose led to overdosing in 53% of patients.

Conclusion: A simplified warfarin dosing formula appears to be safer than 3-mg initiating dose. Overdosing from warfarin formula is less prevalent than 3-mg initiating dose, particularly in patients with HF and/or stroke.

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