Factors affecting quality of warfarin anticoagulation in patients with atrial fibrillation: insights from AFFIRM

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Introduction The efficacy of warfarin anticoagulation in atrial fibrillation patients at risk for stroke is related to time in therapeutic range (TTR) with an INR 2.0–3.0. Factors predisposing to low TTR have not been investigated comprehensively.

Methods This post hoc analysis of the AFFIRM trial included patients with at least five INR values. “Optimal” anticoagulation was defined as TTR ≥75%; above this level, adjusted-dose warfarin offers the same prognostic benefits as new oral anticoagulants. Binary regression analysis identified independent variables associated with TTR. The impact of TTR on outcomes was assessed further through Cox regression analysis.

Results Of 3066 AFFIRM patients, the mean TTR was 0.62 SD 0.2. 975 patients (32%) were “optimally” anticoagulated. These subjects were more frequently male, treated with rate control alone and were less likely to have heart failure, diabetes, myocardial infarction, and hepatic or renal failure (all p < 0.05). Cox regression analysis demonstrated TTR was a major determinant of all cause mortality (p < 0.001), ischaemic stroke or TIA (p = 0.003) and major bleeding (p = 0.01). Binary regression analysis revealed female gender (p = 0.005), minority status (p < 0.001), history of myocardial infarction (p = 0.02) and non-treatment with β blockers (p < 0.001) were associated independently with sub-optimal anticoagulation.

Conclusion TTR is related strongly to clinical outcomes. TTR is associated with clinical and demographic characteristics. Knowledge of factors associated with low TTR may help better optimise antithrombotic management.

Atrial fibrillation: insights from AFFIRM