Predictability of modified SA2Me-TR score among non-valvular atrial fibrillation (NVAF) patients at Malaysian public hospitals

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ABSTRACT

Introduction: Anticoagulation control (INR Control) prior to warfarin initiation among atrial fibrillation (AF) patients can predicted using scoring tools. The Modified SA2Me-TR score is an alternative to the SAMe-TT2R2 score that can be used to predict anticoagulation control yet to be validated in the Malaysian population. **Methods:** This multicentred retrospective observational study was conducted at Hospital Tanjung Karang and Hospital Serdang. Patient medical records on warfarin were used to collect 10 international normalized ratio (INR) readings after one month of initiation and other details required to stratify the Modified SA2Me-TR score. Linear regression, Independent t-test, Chi-Square, Phi, and Cramer V analysis were used to analyse the predictability. **Results:** A total of 266 patients who met the selection criteria were included in the final analyses. This study found that the Modified SA2Me-TR score has a statistically significant moderate negative correlation with time in therapeutic range (TTR) in the study population ($p<0.001$ R=-0.399). For every 1-point patient score, the study exhibited a decline in TTR by -6.563 to -11.670 ($p<0.001$). Modified SA2Me-TR score explains 15.9% of changes in TTR ($p<0.001$ R2 adjusted 0.159 CI 95% [-11.670, -6.563]). Ten potential clinical factors that alter the TTR were studied, only heart failure HF ($p<0.001$, 95%CI [-21.623, -10.329]) and proton pump inhibitors (PPI) ($p<0.001$, 95%CI [-20.135, -5.703]) showed statistical significance. **Conclusion:** Modified SA2Me-TR was shown to have a few limitations as a predictor model. Further studies incorporating additional criteria such as PPI should be considered to improve the model.