The relationship between adverse clinical outcomes with poor time in therapeutic range among non-valvular atrial fibrillation patients

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ABSTRACT

Introduction: Warfarin remains a cornerstone treatment of preventing thromboembolic events in non-valvular atrial fibrillation (NVAF) patients. The qualitative aspect of treatment using Warfarin commonly assessed via time in therapeutic range (TTR). Poor TTR is known to cause adverse clinical outcomes such as stroke, thromboembolism or bleeding. **Objective:** To identify the mean TTR, adverse clinical outcomes and predictors of poor TTR in NVAF patients at a Malaysia secondary hospital and further investigate the association between poor TTR % and adverse clinical outcomes. **Materials and Methods:** This is a retrospective observational – cohort study, which involves NVAF patients attended Warfarin MTAC in Hospital Shah Alam. All patients attended Warfarin MTAC between the year 2019-2022 were screened. Information data of patients who fulfilled the inclusion and exclusion criteria were retrieved from an electronic health information system (eHIS) into apre-prepared data collection form prior to analysis. **Results:** A total of 72 patients who fulfilled the inclusion criteria were included in this study. The mean TTR-value of NVAF Warfarin MTAC patients obtained from this study was 63.7% (±3.03). Regression analysis was performed and showed that the number of INR clinic visits and HASBLED score were significantly associated with poor TTR control (<65%) (P = 0.048 and P = 0.049 respectively). The most common adverse clinical outcome reported was bleeding. 58.8% patients experienced adverse clinical outcomes consisted of those in the poorlycontrolled TTR group (<65%). HASBLED score and smoking habits were both significantly associated with adverse clinical outcomes (AOR = 0.42, CI = 0.22 - 0.82; P = 0.006 and AOR = 0.26, CI = 0.008 - 8.56; P = 0.048 respectively). **Conclusion:** This study suggests that the risk of adverse clinical outcome, bleeding exists among Warfarin treated patients despite TTR control. This risk was further increased among patients with poor TTR control (<65%). These findings provide evidence to revise the suitability of Warfarin in managing stroke risk among NVAF patients apart from conveying the role of pharmacist in ensuring good TTR control among NVAF patients.