

On or off target? – an audit of time in therapeutic range in a cohort of outpatients established on warfarin therapy for atrial fibrillation

Darren Borg, Mintoff Dillon, Fleri Soler Jeremy, Felice Tiziana, Gatt Alex, Caruana Maryanne

AIM

Oral anticoagulant (OAC) therapy is used to prevent thromboembolism in patients with atrial fibrillation (AF). In Malta, warfarin remains the most widely prescribed OAC in AF. The time in therapeutic range (TTR) of 2.0 – 3.0 should be as high as possible to ensure adequate and safe anticoagulation. The aim of this audit was to establish the TTR in a representative cohort of patients taking warfarin for AF and receiving their INR monitoring at Mater Dei Hospital.

Methodology

One hundred consecutive patients who had been on warfarin for at least 6 months and who had an Anticoagulant Clinic visit during the months of March/April 2018 were included. Serial INR results taken from iSoft Clinical Manager were used to calculate TTR following the Rosendaal method. Independent t-test was used to compare differences in mean TTR between (a) male and female patients and (b) younger (aged \leq cohort median age) and older (aged $>$ cohort median age) patients.

Results

Fifty-three subjects in the cohort were male. Mean age was 74.10 ± 10.63 years and median age was 74 years. The overall mean TTR was $64.48\% \pm 19.21\%$ and median TTR was 65.55% (IQR 26.68%). There were no statistically significant differences in TTR between males (mean $66.94\% \pm 17.55\%$) and females (mean $61.71\% \pm 20.76\%$) ($p=0.18$) and between patients aged ≤ 74 years (mean $65.34\% \pm 18.67\%$) and patients aged > 74 years (mean $63.66\% \pm 19.86\%$) ($p=0.66$).

Discussion

In our patient cohort, INR readings were outside target range for approximately 35% of the time, during which time patients could be exposed to higher risks of thromboembolic events or unnecessarily high risks of bleeding complications.

Conclusion

Consideration for broader use of the direct oral anticoagulants in eligible patients might translate into safer and more effective anticoagulation. In the meantime, improving the current ACC system with the introduction of service improvements such as a dedicated Anticoagulation Clinic with permanent medical staff utilising an evidence based dosing software is urgently required.