A retrospective clinical audit of oral anticoagulation management in a general practice surgery

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A retrospective clinical audit of oral anticoagulation management in a general practice surgery

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Background

Oral anticoagulants are predominantly managed in general practice. Warfarin therapy has been the mainstay of treatment although the emergence of newer oral anticoagulants (NOACs) has provided an alternative for some indications. The International Normalised Ratio (INR) is used as a surrogate measure to monitor warfarin safety and efficacy. For the individual patient on warfarin, a time in therapeutic range (TTR) > 60% is considered ideal.

For the NOACs, e.g., rivaroxaban and dabigatran, routine haemostatic monitoring is not useful. Recommended management strategies to avoid this divergence overcome to:
- dose according to age, weight, and renal function
- monitor INR using a computer-based system
- avoid using INR calculated using the MDRD equation, as reported by pathologists, to guide NOAC management.

There is evidence that warfarinization in patients receiving oral anticoagulants is associated with less bleeding risk and higher INR stability, indicating that INR may be a better measure of quality of care than other NOACs.

Aims and Objectives

The primary objective of the audit was to assess the quality and safety of oral anticoagulation in a general practice setting. Outcomes included investigations of:
- TTR for warfarinized patients
- TTR for patients on rivaroxaban (RIV)
- TTR for patients on dabigatan (DBG)
- bleeding risk using the HAS-BLED tool in all patients for the most common modifiable bleeding risk factors
- concurrent prescription and over-the-counter medications with the potential to interact with warfarin and/or NOACs.

Methods

A 2-year retrospective clinical audit was conducted on records of all patients on oral anticoagulants. Data collected and parameters calculated were:
- TTR for warfarinized patients
- TTR for RIV
- TTR for DBG
- bleeding risk using the HAS-BLED tool
- concurrent prescription and over-the-counter medications with the potential to interact with warfarin and/or NOACs.

Results

Eighty patients received anticoagulants with a mean age of 76.5 years. Warfarinized cohort = 74 patients (see Fig. 1)

- The mean TTR was 72%
- 56 patients (75%) had a mean TTR of > 60%, considered less than ideal

Results (continued)

All patients: bleeding risk factors (Fig. 3)

- 40 patients (55%) had 2 or more bleeding risk factors
- Mean number of risk factors was 1.2, which corresponds to a bleeding risk of 0.01% per annum, or 1.18 bleeds per 100 patient years
- All NOAC patients had abnormal renal function

Conclusions

This retrospective audit of anticoagulation management in the general practice has shown that warfarin management approach was considered ideal, with the majority of patients achieving an INR of high quality control being at a value of the NOACs over warfarin in terms of outcomes and stability. Although there were four patients on NOACs, the results suggest improvement in management is possible. Patients with reduced renal function require more frequent monitoring and where relevant, dose adjustment of their NOACs. A limitation of this audit is that actual bleeding and thrombotic outcomes have not been recorded, with practice protocols on anticoagulant monitoring and management being implemented to improve patient safety.