Evaluation of novel oral anticoagulants (NOACs) dosing in patients with Atrial Fibrillation in a tertiary hospital

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Background

- Novel oral anticoagulants (NOACs) are increasingly prescribed over warfarin in atrial fibrillation (AF) for thromboembolic prevention.
- Although robust guidelines exist to guide dosing, under and overdosing of NOACs continue to contribute to an increased risk of stroke or major bleeding.
- In addition, there are no specific guidelines to guide NOAC dosing in AF patients with concomitant antiplatelet therapy currently in Australia.

Aim

To identify the proportion of patients commenced on NOACs who are dosed appropriately and identify any common patterns of inappropriate dosing.

Method

- A retrospective review was conducted
- Patients who were admitted and commenced on NOACs for the indication of AF were identified through Casemix using ICD-10 WHO codes.
- After data collection, an analysis and evaluation of the data was conducted to identify the proportion of patients:
  a) with impaired renal function receiving a reduced dose,
  b) with no indication for a reduced dose receiving full standard doses,
  c) being dose reduced (independent of renal function) when a NOAC is being used in conjunction with one antiplatelet agent and
  d) with two antiplatelet agents.

Results

Overall, 271 patients met the inclusion criteria with a mean age of 69.8 years. Of these – 79.3% (n=214) patients were prescribed apixaban, 16.6% (n=45) were prescribed rivaroxaban, and 4.1% (n=11) were prescribed dabigatran.

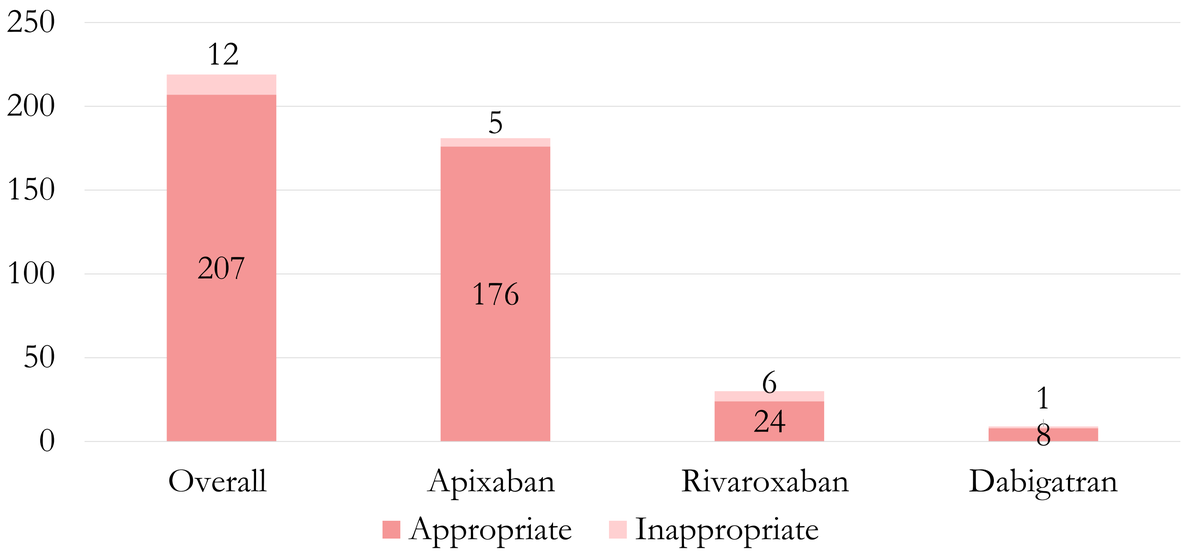

Fig 1. Number of patients receiving standard dose & its appropriateness

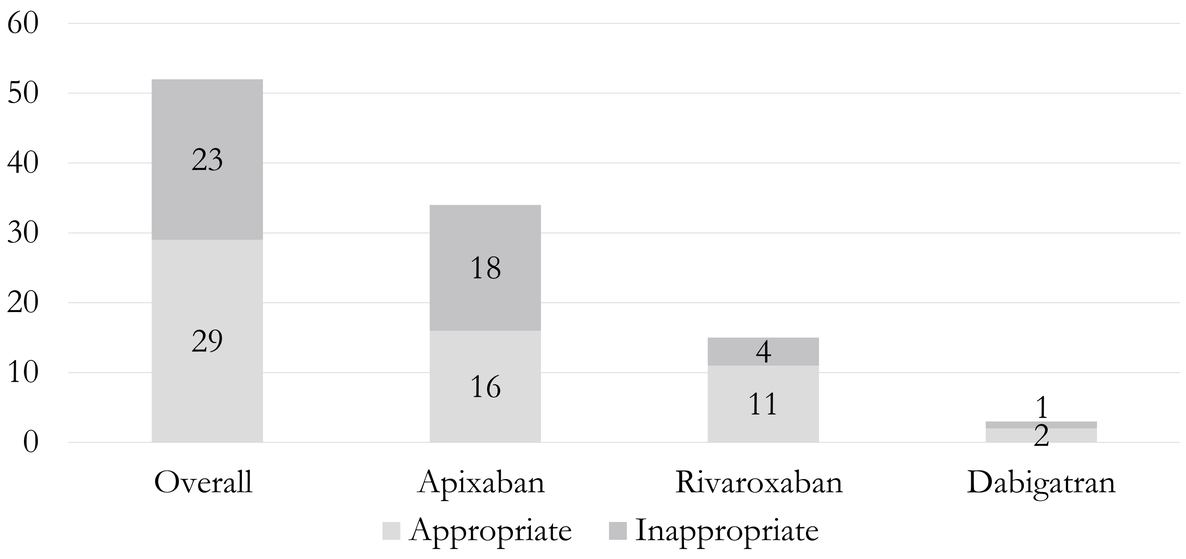

Fig 2. Number of patients receiving reduced dose & its appropriateness

Out of the 23 patients receiving reduced dose and were inappropriately dosed, 4 (17.4%) had their dose reviewed and adjusted to the standard dose during admission.

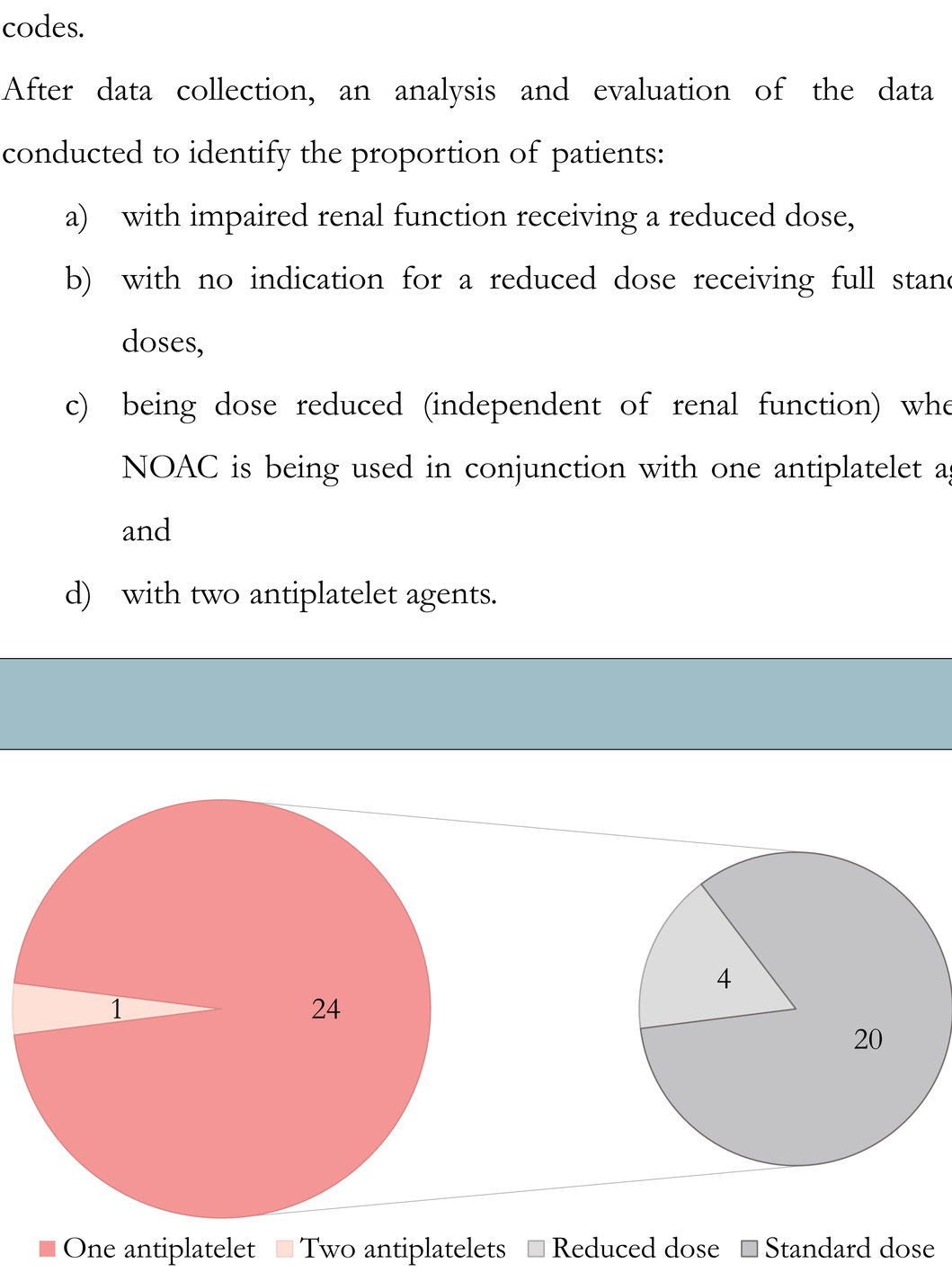

Fig 3. Result of NOAC dosing with concomitant antiplatelet therapy

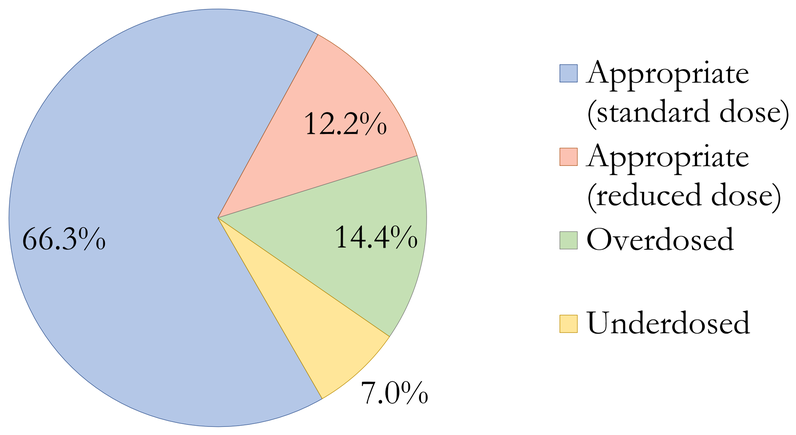

Fig 4. Overall prevalence of inappropriate dosing

Conclusion

Appropriate NOAC dosing was identified in 78.5% of the overall cohort. However, 14.4% of patients were overdosed and 7.0% underdosed, which highlights the importance of proper review and documentation. Further study is warranted to assess compliance of new NOAC dosing recommendations with concomitant antiplatelet therapy.