Bleeding with New Oral Anticoagulants (NOACs)- A Retrospective Review in a Tertiary Hospital Setting

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INTRODUCTION

New oral anticoagulants (NOACs) offer predictable and reliable anticoagulation with fixed dose therapy and require less monitoring compared to warfarin.

All cause bleeding from NOACs remains a concern, however most literature reports the incidence of major bleeds.

The aim of our study was to report the rate, types of bleeding and patient characteristics of an unselected cohort of patients prescribed NOACs in a tertiary hospital setting.

METHODS

Patients admitted to SCGH on NOAC therapy (apixaban, dabigatran, or rivaroxaban) or started on NOAC therapy in hospital were identified from electronic discharge summaries between October 2015 and July 2016.

Patient demographics, admission data and NOAC type and dose were collected from medical records and/or electronic hospital (iCM) database. The HAS-BLED and CHA2DS2-VASc scores were determined for each patient.

RESULTS

A total of 199 patients (mean [SD] age 72.4 [11.4] years, 61% male) were identified.

Apixaban was the most common NOAC prescribed (49.8%) followed by rivaroxaban (42.7%) and dabigatran (7.5%).

Overall, 18.1% of patients' prescribed a NOAC experienced a bleeding episode, *Figure 1.* A quarter (23%) of patients who experienced a bleed were initiated on NOAC therapy during the same admission.

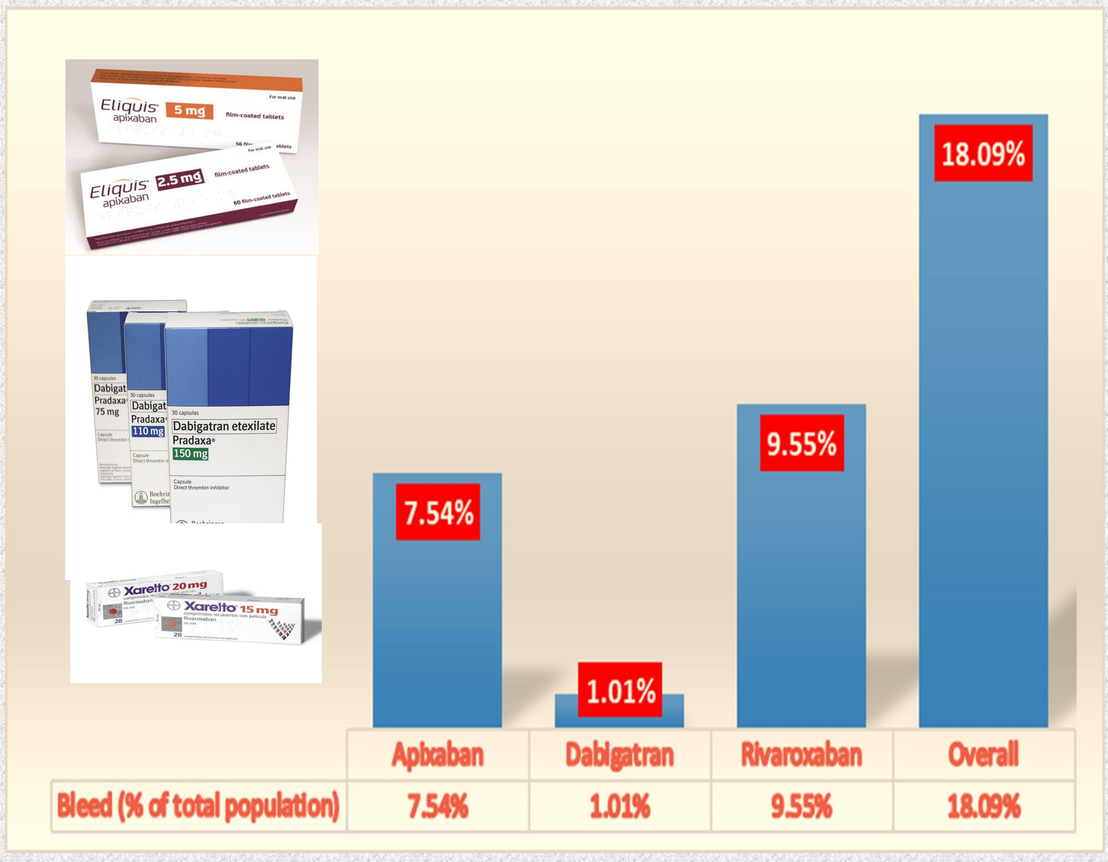

Figure 1: NOACs and their incidence of bleeding

Rivaroxaban accounted for the greatest proportion of bleeds at 44.5%, followed by apixaban (30.2%) and dabigatran (26.5%).

RESULTS (cont)

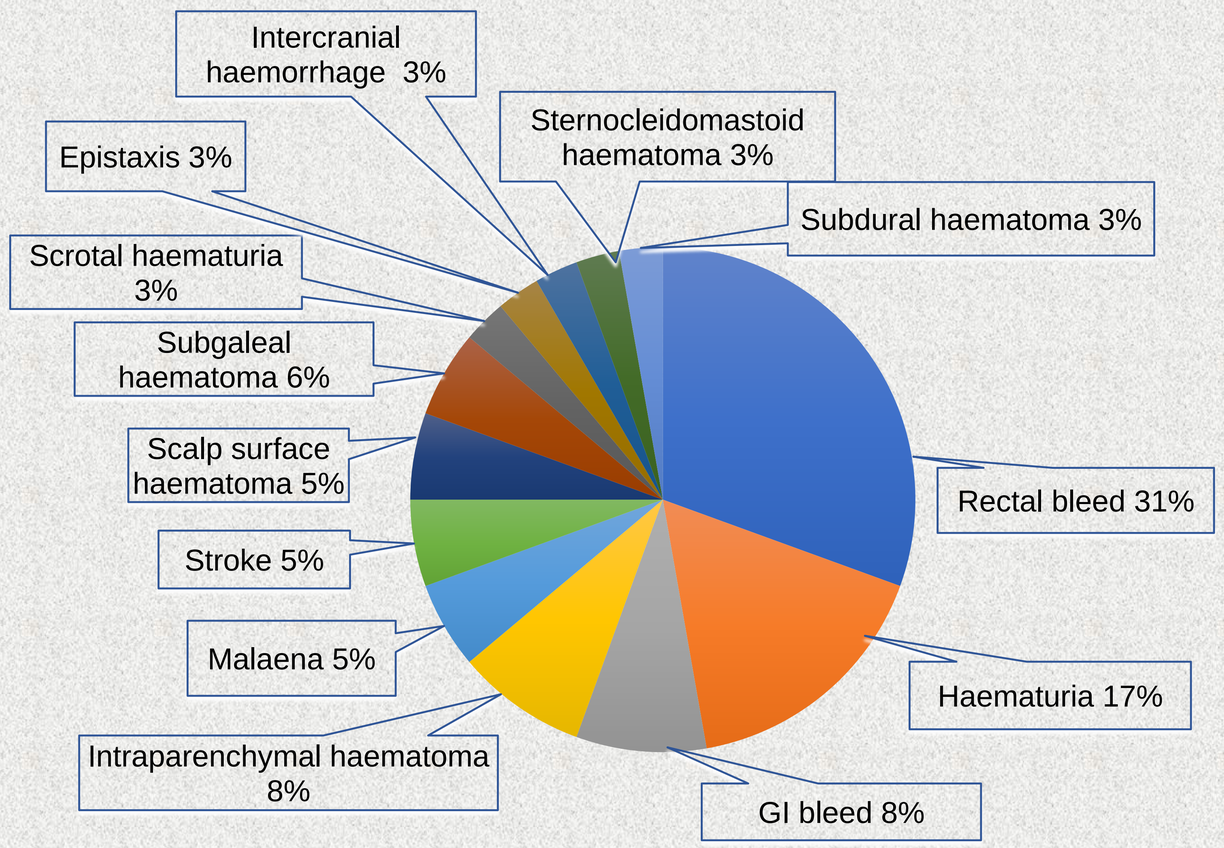

Figure 2: Types of bleed recorded with NOAC therapy

Rectal bleeding (31%) was the most prevalent type of bleed for patients on NOACs followed by haematuria (17%).

The HAS-BLED and CHA2DS2-VASc scores on average were greater than 3 for majority of patients.

Evidence of NOAC counselling/education (29.4%) was poorly performed or documented.

DISCUSSION

This study reports a higher rate of all-cause bleeding with NOAC therapy than previously reported in the literature which is between 3-5% with a focus on major bleeds

This may reflect our cohort who are patients admitted to a tertiary hospital, are elderly and may have greater comorbidities than the general population. This population is under represented in the literature.

Evidence of education provided for patients on NOAC could be improved, future studies to assess the impact of this intervention are needed.

CONCLUSION

All-cause bleeding from NOAC therapy is common amongst patients admitted to a tertiary hospital

Pharmacists and prescribers should take this into consideration when reviewing medications during an admission

Our recommendation to include documentation of education of NOAC therapy have been adopted in the recent revision of the WA Anticoagulation Chart

REFERENCES

1. *Weitz JI. Anticoagulation therapy in 2015: where we are and where we are going. Journal of Thrombosis and Thrombolysis. 2015;39(3):264-72.*
2. *Skaistis J, Tagami T. Risk of Fatal Bleeding in Episodes of Major Bleeding with New Oral Anticoagulants and Vitamin K Antagonists: A Systematic Review and Meta-Analysis. PloS one. 2015;10(9):e0137444.*

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