Direct-acting oral anticoagulants: a bridge to nowhere

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Introduction

Often heparin and enoxaparin are used for bridging until the effects of warfarin result in a therapeutic international normalised ratio

Where direct-acting oral anticoagulants (DOACs) such as apixaban, dabigatran and rivaroxaban are used, bridging with heparin is not required

Inadvertent and unnecessary anticoagulant duplication arises from confusion of when to bridge, increasing the risk of bleeding

Method

A retrospective audit of data captured by the electronic medication management (EMM) system was used to identify inappropriate anticoagulant duplications

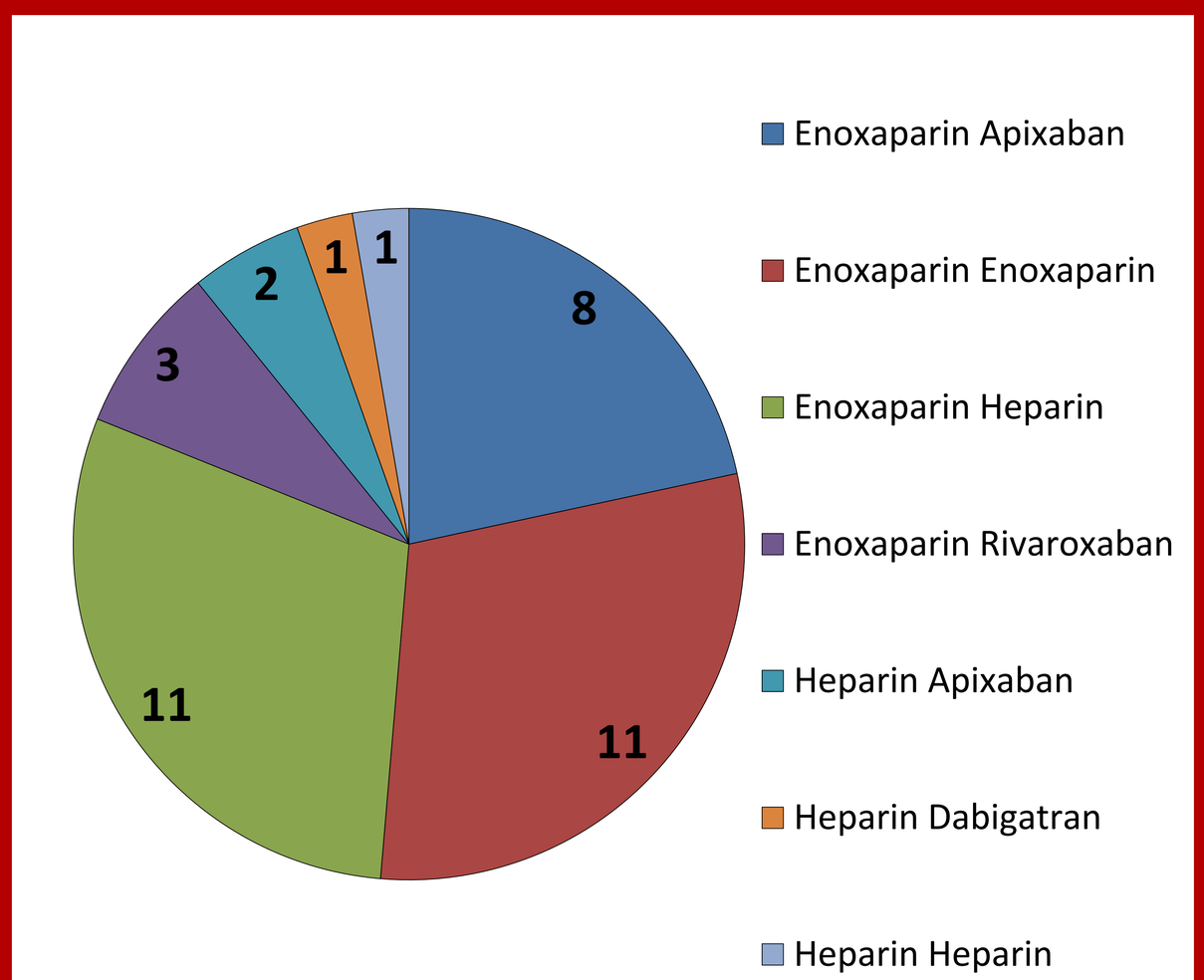
All patient administration records within the scope of the EMM system were audited over a 38-day period

Filters were applied to identify ward, prescribing team and anticoagulant combination

Targeted strategies to prevent further inappropriate duplications were developed and implemented

Findings

- A total of 1,348 anticoagulant orders in 756 individual patient records were identified
- During the audit period, 37 inappropriate duplications were noted, with 14 cases involving a DOAC with heparin or a low molecular weight heparin
- Nurses or pharmacists usually intercepted these events such that the overlap occurred for few, if any doses and no patients were harmed
- Audit findings discussed at Medication Safety and Drug and Therapeutics Committees led to the development of strategies to improve prescribing practice. These included:
  - Education for prescribers and nurses
  - EMM system recommendations relating to decision support and alerts
  - Implementation of a venous thromboembolism stewardship (VTE) program



Improvements

Multiple educational platforms alerting clinicians to the hazards of inadvertent dual anticoagulant prescribing have been utilised:

- Junior Medical Officer Training
- Grand Rounds Presentations
- Medication Safety Monthly Bulletin
- Medication Safety Week Nursing Education

Health District VTE stewardship positions have been created raising general awareness of safe anticoagulant prescribing practices

Conclusions

Our institution has identified cases in which DOACs were combined with heparin or low molecular weight heparin

Interventions such as education, clinical decision support and VTE stewardship programs can be successful at reducing inappropriate duplications of anticoagulants

Similar inappropriate duplications have been reported at other institutions[1] necessitating ongoing anticoagulant review

References

1. Jones BA, Paine MJ. Duplication of pharmacological venous thromboembolism prophylaxis or therapeutic anticoagulants with direct oral anticoagulants. Pharmacy GRIT. 2019;3(2). doi: 10.24080/grit.1177.

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