Response to Letter by May et al Regarding Article, “Use of Dabigatran for Periprocedural Anticoagulation in Patients Undergoing Catheter Ablation for Atrial Fibrillation” by Bassiouny et al.

Thank you for giving us the opportunity to respond to Dr Fauchier’s valid concerns. Dr Fauchier et al recommended holding dabigatran for ≥36 hours preablation and considering switching to weight-adapted LMWH (low-molecular-weight heparin). In addition, they recommended that the activated partial thromboplastin time (aPTT) ratio should be <1.2 before intervention because of concerns about reliability of monitoring the activated clotting time (ACT) at higher aPTT values.

We agree that the data supporting use of ACT in patients on dabigatran are limited. Ideally, bleeding risk should have been assessed by the ecarin clotting time. However, this test is still not widely available and is limited to research centers. aPTT can be used as a qualitative indicator of the anticoagulant activity of dabigatran, but not for precise quantification because it is relatively insensitive within the range of plasma concentrations of dabigatran likely to be observed in patients.1,2

The ACT test may provide a better index of anticoagulation than aPTT in the setting of an invasive intracardiac procedure with high heparin requirements because it responds linearly to a wider range of heparin concentration, the patient’s own platelet factor 3 is being used, calcium variations are kept to a minimum, and sample handling is reduced.3,4 In vitro studies showed a concentration-dependent increase in ACT that was linear with dabigatran concentrations up to 250 ng/mL but then flattened at higher concentrations (≥500 ng/mL).4 The median peak and trough plasma concentrations of dabigatran in patients on a therapeutic dose of 150 mg twice daily were reportedly 184 ng/mL and 90 ng/mL, respectively, and concentrations >500 ng/mL require supratherapeutic doses (up to 400 mg 3 times daily) to achieve,5 and is not expected to be encountered in our patient population with normal kidney functions who held 1 to 2 doses of dabigatran before atrial fibrillation ablation.

In our study, use of ACT for intraprocedural monitoring helped timely titration of the heparin dose to achieve therapeutic anticoagulation and was not associated with increase in thrombotic or hemorrhagic complications. However, we acknowledge that the main objective of the study was to report on the clinical outcomes of the use of dabigatran in atrial fibrillation ablation and was not designed to assess the effect of dabigatran on the various anticoagulation tests. More studies are required to assess the optimal monitoring strategy and ideal duration of withholding dabigatran before atrial fibrillation ablation. Our concern is that prolonged interruption of anticoagulation before ablation can increase the risk of intraprocedural thrombosis, and we agree with Dr Fauchier that bridging with heparin may be required in that setting.

Disclosures

None.

References

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Circ Arrhythm Electrophysiol. 2013;6:e66
do: 10.1161/CIRCEP.113.000701

Circulation: Arrhythmia and Electrophysiology is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 1941-3149. Online ISSN: 1941-3084

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