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.

To the Editor:

In patients undergoing catheter ablation for atrial fibrillation with pulmonary vein isolation, the recent study by Bassiouny et al1 found no evidence to suggest a higher risk of thromboembolic or hemorrhagic complications with use of dabigatran for peri-procedural anticoagulation compared with uninterrupted warfarin therapy. Early in the experience, patients were instructed to hold 1 or 2 doses of dabigatran before ablation, and most patients seen in the last period of the study were instructed to hold only 1 dose on the morning of the procedure. During the procedure, unfractionated heparin was continuously given to all patients via intravenous infusion. Activated clotting time (ACT) was monitored every 10 to 30 minutes, additional heparin boluses given, and the infusion rate adjusted to target an ACT of 350 to 450 seconds as proposed in the current guidelines for atrial fibrillation ablation.2 Despite higher doses of intraprocedural heparin, the mean ACT was significantly lower in patients who held dabigatran for 1 or 2 doses than in those on warfarin.

An in vitro heparin–dabigatran interaction does exist,3 and dabigatran potentiates heparin’s antithrombotic properties resulting in a doubled anticoagulant effect. More importantly, physicians should be aware that unless activated partial thromboplastin time is <1.2 before intervention, monitoring of ACT may actually be unreliable. ACT is the most frequently used bedside coagulation test to measure the anticoagulatory effect of unfractionated heparin during cardiac catheterization or any type of cardiac surgery in which the challenge is to balance the risk between bleeding and thrombosis. Dabigatran causes a significant prolongation of ACT in vitro. However, no correlation exists, especially at higher concentrations of dabigatran.1 Bassiouny et al1 showed that ACT at baseline may be prolonged or not, based on residual dabigatran levels, and also suggested that interaction possibly occurred in vivo in their patients. A vigilant monitoring of intraprocedural ACT is undoubtedly needed with the use of dabigatran to avoid the inherent procedural risks, but this recommendation is not a realistic and fully safe option in patients with a very short half-life of dabigatran.4

In summary, the procedural antithrombotic management of patients undergoing atrial fibrillation ablation with NOACs (new oral anticoagulants) may not receive enough attention. In our opinion, patients on dabigatran before ablation should have the drug stopped ≥36 hours preablulation (considering switching to weight-adapted LMWH [low-molecular-weight heparin]). In addition, activated partial thromboplastin time ratio should be <1.2 not only to avoid a higher bleeding risk5 but also to avoid thrombotic events because ACT monitoring may lead to fuzzy and possibly hazardous management with unfractionated heparin during the procedures, with unpredictable clinical implications.

Disclosures

Dr Guel has served as a speaker for Bayer, BMS/Pfizer, and Boehringer Ingelheim. Dr Fauchier has served as a consultant and has been on the speaker bureau for Bayer, BMS/Pfizer, and Boehringer Ingelheim. The other author reports no conflicts.

Marc Antoine May, MD
Services d’Anesthésie et de Chirurgie cardiaque
Centre Hospitalier Universitaire Trousseau et Université François Rabelais
Tours, France

Yves Guel, MD, PhD
Service d’Hématologie-Hémostase
Centre Hospitalier Universitaire Trousseau et Université François Rabelais
Tours, France

Laurent Fauchier, MD, PhD
Cardiologie, Centre Hospitalier Universitaire Trousseau et Université François Rabelais Tours, France

References


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.

Marc Antoine May, Yves Gruel and Laurent Fauchier

_Circ Arrhythm Electrophysiol._ 2013;6:e65; originally published online July 30, 2013; doi: 10.1161/CIRCEP.113.000515

_Circulation: Arrhythmia and Electrophysiology_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2013 American Heart Association, Inc. All rights reserved.
Print ISSN: 1941-3149. Online ISSN: 1941-3084

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circep.ahajournals.org/content/6/4/e65

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation: Arrhythmia and Electrophysiology_ can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to _Circulation: Arrhythmia and Electrophysiology_ is online at:
http://circep.ahajournals.org/subscriptions/