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.4 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 interruption of dabigatran considering the above mentioned reasons, in spite of the clinical results reported by Bassiouny et al.1

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 undergoing atrial fibrillation ablation should have the drug stopped ≥36 hours preablation (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 procedure, with unpredictable clinical implications.

Disclosures
Dr Gruel 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.

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