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Anti-thrombotic management for electrophysiological procedures: results of the European Heart Rhythm Association (EHRA) young investigators survey

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Background: Electrophysiological studies (EPS), with or without ablation, require percutaneous introduction of catheters into the heart to record local electrical activity. Instrumentation of catheters within the blood causes activation of the clotting cascade, increasing the risk of thrombus formation. To date, the electrophysiological community lacks international guidelines on the use of anti-thrombotic therapies before, during and after EPS.

Purpose: To survey the current practice regarding the use of anti-thrombotic therapies across member countries of the European Heart Rhythm Association (EHRA).

Methods: The survey was conducted in February 2019. Electrophysiologists from EHRA member countries were contacted to complete the survey by e-mail, utilizing the EHRA Young EP network. They were asked to answer a questionnaire containing information on anti-thrombotic and anticoagulation management before, during and after left-sided EPS and ablation: atrial tachycardia (AT), accessory pathway (AP) and ventricular tachycardia (VT).

Results: We obtained 41 answers responses from 40 centers in 15 European EHRA member countries. Regarding of antiaggregation, the most used antiplatelet is aspirin (100% before, during and after ablation). The most used anticoagulant was novel oral anticoagulants (NOAC) before ablation (47.1%), during hospitalization (85.2%) and at discharge (70.3%). The administration of anti-thrombotic therapy depended on the procedure time only in 10 cases (24.4%).

For AP, before ablation, only 4 centers (9.7%) administered anti-platelets and 2 (4.9%) anticoagulants. During ablation, heparin was used by 85.4% of respondents maintaining ACT target 300-350 s in 36.6% of cases. At discharge, antiaggregation therapy was prescribed by 22 colleagues (53.7%) and anticoagulation only by one (2.4%).

In patients with AT, before ablation, antiaggregation prophylaxis was prescribed by only 4 centers (19.5%) and anticoagulation by 11 (26.8%). During procedure, almost all centers (40, 97.6%) used heparin with ACT target 300-350 s in 58.5% of cases. At discharge, antiplatelet therapy was recommended by 12 colleagues (29.3%) and anticoagulation by 24 (58.5%).

Regarding VT, before procedure, 8 centers (19.5%) prescribed antiaggregation and 5 (12.2%) anticoagulation prophylaxis. During ablation, all centers used heparin, maintaining ACT target 300-350 s in 58% of cases. The use of antiaggregation or anticoagulation depended on the left ventricle (LV) access in 15 centers (37.5%) and on LV ejection fraction in 11 (26.8%). At discharge, anti-thrombotic therapy was recommended by 16 colleagues (39%) and anticoagulation by 13 (31.7%).

Conclusion: Our survey showed that there is considerable variation in the management of anti-thrombotic therapy surrounding left-sided EPS and ablation. Further studies are necessary to evaluate the right approach to these procedures.