INTERVIEW WITH LUIGI DI BIASE, MD, PhD, FACC, FHRS

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Introduction

There are a variety of periprocedural anticoagulation strategies for atrial fibrillation (AF) ablation. Reducing the risks of bleeding and systemic thromboembolization are the main goals of anticoagulation management. The management of patients taking oral anticoagulants in the periprocedural period poses a challenge because of these risks. Procedural-related stroke/transient ischemic attacks (TIAs) have reduced in frequency over time, but non-paroxysmal (persistent/permanent) patients who undergo ablation have a higher risk of stroke/TIA. However, studies show that whether using non-irrigated or open-irrigated catheters, AF ablation and periprocedural stroke remain a portentous association.

Among already existing research, randomized clinical trials such as the COMPARE trial and VENTURE-AF trial, are providing further advancements in the field. Dr. Di Biase provides his perspectives and discernments on how new studies are transitioning the views of periprocedural anticoagulation strategies.

Dr. Di Biase is Director of Arrhythmia Services, Section Head of Electrophysiology, and Associate Professor of Medicine (Cardiology) at Albert Einstein College of Medicine, at Montefiore Hospital in New York. He is also a Senior Researcher at Texas Cardiac Arrhythmia Institute at St. David’s Medical Center. Dr. Di Biase also serves as Clinical Assistant Professor in the Department of Cardiology at the University of Foggia in Italy.

He is a member of the Italian Federation of Cardiology and Electrophysiology (FIC-AIAC), the European Society of Cardiology (ESC), the European Heart Rhythm Association (EHRA), the American College of Cardiology (ACC), the American Heart Association (AHA), and a Fellow of the Heart Rhythm Society (FHRS) and the American College of Cardiology (FACC). Dr. Di Biase is also an honorary member of the Korean Society of Cardiology. He has authored about 250 publications in indexed journals, about 290 abstracts, and 16 electrophysiology book chapters. Dr. Di Biase has presented at numerous national and international conferences as an invited speaker. As a recipient of several awards, he also serves on the Editorial Board of several electrophysiology and cardiology journals.

During the 20th Annual International Atrial Fibrillation Symposium, Dr. Di Biase reviewed periprocedural anticoagulation strategies comparing warfarin and new oral anticoagulants (NOACs) to avoid the risk of stroke in patients undergoing catheter ablation of atrial fibrillation.

While new developments and research are being conducted, we speak with Dr. Di Biase, about periprocedural anticoagulation strategies and the new research and developments being made in atrial fibrillation ablation.

Wagner: How have periprocedural anticoagulation optimized patient outcomes?

Di Biase: Periprocedural anticoagulation has been an essential task in the development of atrial fibrillation (AF) ablation. Periprocedural thromboembolic events represent one of the most worrisome complications of catheter ablation because of the potential long-term effect on patients’ functionality and on electrophysiologist pathos.

Wagner: In your research, what changes have you seen in patients undergoing AF ablation for those at risk for stroke and systemic embolism?

Di Biase: The major change we have seen in the past few years is the transition of interrupted anticoagulation strategies to uninterrupted strategies. We did the first randomized study showing that performing catheter ablation of AF without warfarin discontinuation reduces the occurrence of periprocedural stroke and minor bleeding complications, compared with bridging with low-molecular-weight heparin especially in patients with non-paroxysmal AF. Another important role of uninterrupted strategies with warfarin is the reduction of “silent cerebral ischemia” as detected with dMRI. This data is extremely important when performing ablation with non-paroxysmal AF.
Wagner: What clinical and procedural data is collected from periprocedural anticoagulation to ensure comparative effectiveness research?

Di Biase: There are several studies and trials that have collected data evaluating periprocedural anticoagulation. The main data collected is thromboembolic complications such as stroke, TIA, silent cerebral ischemia, and peripheral embolism. In terms of bleeding, pericardial effusion, tamponade, and vascular access complications are the main ones. This data is available through different studies. The first randomized trial utilizing uninterrupted warfarin for AF ablation was the COMPARE trial. Similarly, there are different studies evaluating NOACs in this setting, and a randomized trial, the VENTURE-AF trial. The AXFA trial and the Recircuit trial are ongoing.

Wagner: What periprocedural anticoagulation strategies would you recommend for patients undergoing ablation of AF?

Di Biase: The strategies that have shown to improve periprocedural complications such as, thromboembolism and bleeding, have been the use of uninterrupted oral anticoagulation, maintaining activated clotted times above 300 seconds and administration of heparin bolus before transseptal catheterization.

Wagner: What should physicians keep in mind when choosing different periprocedural anticoagulation strategies?

Di Biase: Careful attention to anticoagulation of patients before, during and after ablation for AF is critical to avoid the occurrence of complications. Several advancements have been done to ensure an optimal safe level of anticoagulation throughout the AF ablation process.

Wagner: What advancements in periprocedural anticoagulation do you see on the horizon?

Di Biase: The future of periprocedural anticoagulation management will include the use of uninterrupted anticoagulation with NOACs. In view of the development of specific reversal agents, appropriate use of heparin protocols for early achievement and maintenance of ACT above 300 seconds prior to left atrial manipulation, and not using TEE on a regular basis for thrombus screening. In terms of TEE use, we recently presented data showing that performing AF ablation while on uninterrupted apixaban and rivaroxaban without TEE is feasible and safe.

Wagner: What improvements need to be made to speed access to new periprocedural anticoagulation strategies?

Di Biase: The main improvement pending is the real world experience with specific reversal agents for NOACs. Since the emergence of NOACs, numerous studies have shown promising results when dealing with “true” uninterrupted strategies, which will continue to expand with the advancement of reversal agents. Thus, developments in this field will probably restrict the use of warfarin for ablation of AF.

Some recent data suggests that instrumenting the patient with the use of ultrasound guidance reduces the risk of vascular access complication. I believe appropriate training in this area should become mandatory in the electrophysiology field.