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➤ Stefan Weber, Sabine Fredersdorf, Clemens Jilek, Norbert Heinicke, Carsten Jungbauer, Oliver Husser, and Andreas Jeron

Abstract 4653: Isolation Of Pulmonary Veins Using A Novel Decapolar Catheter For Mapping And Ablation

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Ablation of Atrial Fibrillation: New Techniques and Targets

Abstract 4653: Isolation Of Pulmonary Veins Using A Novel Decapolar Catheter For Mapping And Ablation

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Background: Ablation of atrial fibrillation (AF) is one of the most time consuming procedures in interventional electrophysiology. Currently, the selection of catheters and ablation techniques is still a matter of debate. Due to the rapidly increasing demand of ablation procedures, technical advances would be helpful to reduce complexity and procedure time in AF ablation. Therefore we investigated the feasibility of a novel decapolar ablation catheter (PVAC) combined with a duty-cycled, low-power RF generator for pulmonary vein (PV) isolation. The system does not require 3D mapping and is the first to enable mapping, pacing and circular as well as segmental ablation with a single catheter.

Methods: AF mapping and ablation was performed in 15 consecutive patients with intermittent AF (mean age 58±12 years, 6 males) using the PVAC- catheter. To visualize the pulmonary vein anatomy, CT or MRI scan was performed in addition to PV angiography before ablation procedure. Additionally all patients underwent transesophageal echocardiography to rule out left atrial (LA) thrombi. Ablation procedure was performed by introducing the PVAC to the LA via single transseptal puncture. An optimal

and stable catheter position for mapping and ablation was achieved by using a steerable sheath and an over the wire technique. RF energy was typically delivered for 60s for circular and 30 to 60s for segmental ablations. Ablation success was defined by disappearance of PV signals and complete exit block obtained by PVAC stimulation.

Results: Isolation of all four PVs could be achieved in 59/60 veins (98%). A very small and hypoplastic right inferior PV could not be reached. The median RF application time until all PV were isolated successfully was 23 ± 7 min. First half of ablations were performed by circular RF application, second half with segmental applications until isolation. Procedure time for ablation was 81 ± 14 min. Total fluoroscopy time was 31 ± 9 min. There were no procedural complications.

Conclusion: Mapping and ablation of pulmonary veins can be performed safe and fast, with low procedure times using a single catheter without 3D navigation or assisted steering. Thus this system may be of high interest not only for high volume but all centers performing AF ablation.

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