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Abstract: 991

Novel circular multielectrode ablation catheter for atrial fibrillation ablation: assessment of the level of pulmonary venous isolation by voltage mapping

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Purpose: Novel ablation tools have been recently introduced in order to allow faster pulmonary vein isolation (PVI). The level of PVI defined through detailed voltage mapping is crucial both for efficacy and to avoid complications. Aim of the study was to assess, in pts with paroxysmal atrial fibrillation (PAF) undergoing ablation, the level of PVI achieved with a novel low energy phased radiofrequency circular multielectrode ablation catheter (Pulmonary Vein Ablation Catheter™ [PVAC]).

Methods: In a selected group of patients referred for catheter ablation of PAF, detailed sinus rhythm voltage maps before and after PVI were obtained using an electro-anatomic mapping system and were projected on a 3-D CT-derived reconstruction of the left atrium (LA).

Results: The population consisted of 10 pts (mean age 57±6 yrs, 40% female, left ventricular ejection fraction 58±6%, LA diameter 38±5 mm). Total number of PVs ostia was 35 (a common PV ostium was present in 5 pts). Before PVI (Figure 1A), the voltage maps showed normal potentials (>0.5 mV) in the body of the LA and at the level of the PV ostia with a gradual decrease of voltage inside the PVs. All PVs were successfully isolated with the PVAC catheter. After ablation, the voltage map showed an extensive zone of potential abatement that included the ostium of each PV in all pts (Figure 1B).

Conclusion: Three dimensional voltage mapping using image integration of the CT-reconstructed LA shows that the novel PVAC system allows PVI at the level of the atrial aspect of the PV ostia.

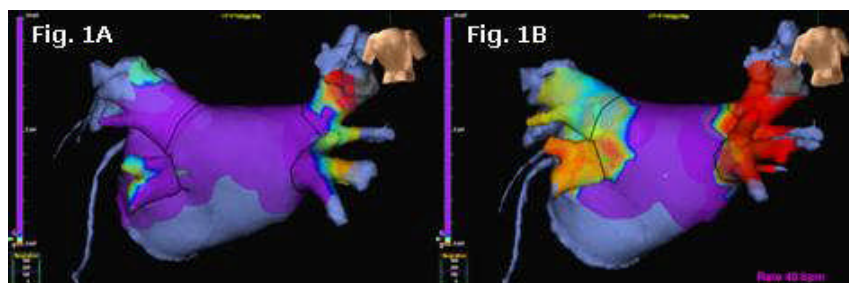


Figure 1

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