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P4827 : Acute efficacy and safety of a novel circular multielectrode radiofrequency ablation catheter for pulmonary vein isolation in paroxysmal atrial fibrillation

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Purpose: Pulmonary vein isolation (PVI) is the standard ablation strategy in paroxysmal atrial fibrillation (AF). In order to reduce procedure and fluoroscopy times, novel ablation tools have recently been introduced. Aim of the study was to assess the acute efficacy and safety in achieving PVI using a low energy phased radiofrequency circular multielectrode ablation catheter (Pulmonary Vein Ablation Catheter™ [PVAC], Ablation Frontiers, Carlsbad, CA, USA) in patients (pts) with paroxysmal AF.

Methods: Consecutive patients with paroxysmal AF referred for catheter ablation were included in the study. PVI was performed using the PVAC system. PVs were considered isolated by demonstration of entry and exit block during pacing and after adenosine challenge. In case of failure in isolating the vein with the PVAC, a 4 mm irrigated tip catheter was used to complete the isolation.

Results: A total of 119 pts (59% males, mean age 60.5±9.9 yrs, NYHA class 1.3±0.6, CHADS2 score 1.3±1.2, LVEF 58.6±7.2%, LA diameter 38.8±5.9 mm) were included in the analysis. Isolation of the pulmonary veins was achieved in all pts at the end of the procedure. Mean fluoroscopy time was 36.5±13.9 min. In the whole population, PVI was achieved in 78 pts (66%) with PVAC alone. By analyzing the time course of the success rates, a learning curve was evident: variable success rates were recorded in the first 69 pts (overall 55%), whereas the rate of PVI with PVAC alone was higher in the last 50 pts (80%). Only two complications related to the use of the PVAC occurred in our population: 1 self-limiting hemoptysis due to the guidewire wedging into a small PV branch, and 1 PV-stenosis that remained asymptomatic after > 6 months.

Conclusions: In our experience PVI using PVAC: 1) is safe, and 2) is acutely effective to achieve PVI once a learning curve phase has been completed.