Zero Fluoroscopy Atrial Fibrillation Ablation and the Role of a New Steerable Sheath Visualizable on the Electroanatomic Mapping System

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Introduction: Steerable sheaths can facilitate ablation of paroxysmal atrial fibrillation (PAF). However, its role is not clear when procedures are performed with minimal or no fluoroscopy, under the guidance of the Electroanatomic Mapping system (EAM) and intracardiac echocardiography. A new steerable sheath (SS) (Vizigo) that has electrodes for visualization in the EAM has recently been introduced. Its impact during PAF ablation has not been studied. The objective of this study was to determine the impact of the Vizigo SS on acute procedural endpoints during PAF ablation performed without fluoroscopy.

Methods: Fifty consecutive patients underwent PAF ablation without fluoroscopy using the new sheath. Acute procedural endpoints were compared against 169 patients that had undergone ablation using similar techniques, EAM and catheters, but without a SS.

Result: Patients in the Vizigo SS group had a mean age of 65±9 years and CHADS2Vasc of 2.5 (vs 63±11 years and 2.2 in the control group, P>0.05). There was a significant decrease in time to left and right pulmonary vein (PV) isolation (247±133 s and 359±170s, Vs 301±186 and 451±247 with p=0.01 and p=0.002 respectively). First pass isolation was similar in both groups for the left (86% Vs 86%, p=0.9) and right PVs (81% Vs 68%, p=0.09). PV reconnection with adenosine (8% Vs 17%, p=0.11) and isuprel (14% Vs 18%, p=0.6) was similar as well. There was a significant decrease in PV RF time (17±6 min Vs 21±7 min, p<0.0001) and procedure time (68±26 min Vs 76±30 min, p=0.03). There were no severe complications in either group.

Conclusion: A new SS, visualizable on the EAM system produced significant improvements in procedural efficiency, while maintaining similar acute efficacy and safety.