

Systematic Approach to Persistent Atrial Fibrillation Ablation.

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Abstract

Background: Numerous studies propose a tailored ablation strategy based on the identification of low-voltage zones (LVZs) for the treatment of persistent atrial fibrillation (PsAF). **Objective:** We evaluated a systematic approach of a tailored PsAF ablation strategy (SATA) using an orthogonal mapping catheter. **Method:** This is a single center observational study comparing 36-month patient outcome of the SATA strategy with the outcome of a matching Control Group (CG) treated with wide antral circumferential ablation technique (WACA) and additional linear lesions. SATA consists of different phases. Firstly, during ongoing AF temporal stable and regular rotational activities get identified and treated together with isolation of pulmonary veins performed with WACA. Secondly during sinus rhythm PVI will be confirmed, and any gaps will be isolated together with treatment of LVZs compatible with non-compact atrial fibrosis. **Results:** WACA was the only treatment performed in 80.6% of the SATA patients versus 30.5% of the CG ($p=0.001$). During the follow-up a lower mean number of AF recurrences per patient were observed in the SATA patients compared to CG. The Kaplan-Meier curve show significantly less first recurrence of AF in the SATA patients (log rank test 0.031). The analysis of all recurrences by means of the Incidence Rate and the Rate Ratio show that the risk per unit of time of having AF recurrence in the SATA patients is less than half compared to the CG ($p=0.009$). The performance analysis expressed by the success of all ablation procedures, demonstrated that in the SATA patients the risk of having a double procedure is less than one fifth compared to the CG ($p=0.009$). **Conclusions:** In our experience the SATA strategy was more effective than rigorous PVI and additional linear lesions.

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