

Optimal single procedure strategy of pulmonary vein isolation with cryoballoon or radiofrequency and non-pulmonary vein triggers ablation for non-paroxysmal atrial fibrillation

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Abstract

Introduction: Limited data exist on pulmonary vein isolation (PVI) using cryoballoon (CB) or radiofrequency (RF) ablation and additional non-pulmonary vein triggers ablation for non-paroxysmal atrial fibrillation (non-PAF). The objective of this study was to assess the outcomes of first-stage catheter ablation for non-PAF patients. **Methods and Results:** Initial PVI was performed on 734 non-PAF patients (age: 64 ± 10 years; male: 584) between September 2014 and June 2018 [315 (43%), CB ablation; 419 (57%), RF catheter]. A logistic regression model was used to match 257 pairs (514 patients) according to propensity scores (CB group or RF group). After PVI, additional non-PV triggers ablation was performed if induced by isoproterenol. We analyzed the clinical outcomes of both groups. The mean procedural time was significantly shorter in the CB group (125 [range, 89–165] min) than in the RF group (190 [160–224] min; $P < 0.001$). The 1-year Kaplan-Meier event rate revealed similar atrial fibrillation-free survival rate between the groups (CB: 77.9%, RF: 82.3%; log-rank $P = 0.111$). The additional ablation percentage for non-PV foci (CB: 39%, RF: 41%; $P = 0.653$) and the complications incidence (CB: 5%, RF: 4%; $P = 0.670$) were also similar. **Conclusion:** In non-PAF patients, PVI using CB or RF ablation and non-PV triggers ablation achieved comparable outcomes. The safety and efficacy of the combination strategy of PVI and non-PV triggers ablation was demonstrated.

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