Pulmonary vein isolation using high-power (50-W) radiofrequency energy in patients with atrial fibrillation

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**Introduction**: High-power short-duration (50 W/5 s) radiofrequency (RF) energy has been used in a few centers for atrial fibrillation (AF) ablation. We aimed to evaluate the efficacy and safety of high-power RF energy in patients who underwent AF ablation.

**Methods**: From among patients in a prospective AF ablation registry, 86 who underwent high-power ablation were included in this study. All the patients underwent PV isolation using a contact force catheter with an automatic annotation module. The primary efficacy outcome was any recurrent atrial arrhythmia after index ablation. The safety outcome was any complication related to the procedure.

**Result**: The total procedure, ablation, and fluoroscopy times were 149.4 ± 34.0, 29.1 ± 9.3 and 9.1 ± 4.3 minutes, respectively. During the 3-month period, atrial arrhythmia recurred in 27 patients (31.4%). Among the initial 30 patients in whom RF energy was delivered for 5 s per lesion, 13 (43.3%) had a recurrence of atrial arrhythmia. After prolongation of the RF time to 10 s in the anterior and superior antra, atrial arrhythmia occurred in 14 (25.0%) of 56 patients. Among the 42 patients followed up over the blanking period, 10 (28.5%) showed atrial arrhythmic recurrence during a median follow-up period of 152 days (interquartile range, 104–190 days). Cardiac tamponade or stroke did not occur in any patient. Among 75 patients (87.2%) who underwent upper gastrointestinal endoscopy after ablation, one had a superficial esophageal ulcer.

**Conclusion**: High-power RF ablation for pulmonary vein isolation was associated with short procedural and RF times and was effective and safe.