

Clinical and Electrophysiologic Outcomes of Patients Undergoing Percutaneous Endocardial Ablation of Scar – Related Ventricular Tachycardia: Single Center Experience

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Background: For patients who have a ventricular tachyarrhythmic event, implantable cardioverter–defibrillators (ICDs) are a mainstay of therapy to prevent sudden death. However, ICD shocks are painful, can result in clinical depression, and do not offer complete protection against death from arrhythmia. Radiofrequency catheter ablation of ventricular tachycardia (VT) in the setting of ischemic cardiomyopathy has emerged recently as useful adjunctive therapy to ICD. The purpose of this study was to assess the feasibility, safety, and efficacy of our initial experience in ablation of scar-related VT.

Methods and Results: Between May 2006 and November 2008, eleven patients (all males, mean age 72 ± 5 years) with drug-refractory ischemic VT were referred to our center for scar mapping and ablation procedures using the CARTO navigation system. A total of 18 (mean cycle length, 398 ± 71 ms; 13 % poorly tolerated) VTs were induced in all patients. An endocardial circuit, identified by activation, entrainment, and/or pace mapping, was found in 8 patients. These patients were mapped and ablated during VT. Three patients had predominantly unstable VT and linear ablation lesions were done during sinus rhythm. Acute success, defined as termination of VT and or non-induceability during electrophysiologic study was in 9 (82%) patients, one of them had recurrence of VT two days after the procedure. One patient, who was admitted due to end stage heart failure, died several days after failed ablation procedure. During follow-up, a significant reduction in tachyarrhythmias burden was observed in all patients who had successful initial ablation.

Conclusion: Ablation of ischemic VT using electroanatomic scar mapping is feasible with acceptable success rate and should be offered for ischemic patients with recurrent uncontrolled VT.