Which Is Effective for Treatment of Ventricular Tachycardias in Patients with Structural Heart Disease, Substrate-Based or Activation/Entrainment-Based Ablation?

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Purpose: Recently, substrate-based catheter ablation (CA) can be applied to more complicated cases. We aimed to compare the efficacy between substrate-based and activation/entrainment-based VT ablation.

Methods: We investigated consecutive 76 patients (55 male) with structural heart disease who underwent CA of VT to analyze relationship between ablation-strategy and clinical outcome. The patients included 25 individuals with ARVC, 16 with ischemic heart disease, 14 with DCM, 11 with sarcoidosis, and 10 with other heart diseases. The patients were divided into two groups according to ablation-strategy, substrate-based mapping group (Group-S, N=45) and activation/entrainment mapping group (Group-AE, N=31). Successful CA was defined as non-inducibility of any VT at the end of procedure.

Results: There were no significant differences in LVEF, and percentage of ICD implantation between 2 groups. There were also no significant differences in percentage of successful CA and number of RF applications. During 4 years of follow-up, no significant differences were shown in recurrences of sustained VT, hospitalization due to heart failure, and cardiac death.

Conclusions: The two different ablation strategies, substrate-based and activation/entrainment mapping, were equally effective to reduce VT events and brought favorable prognosis in patients with structural heart disease.

Keywords: ventricular tachycardia, catheter ablation, structural heart disease