THREE-DIMENSIONAL MAPPING AND ABLATION OF VENTRICULAR OUTFLOW TRACT VENTRICULAR TACHYARRHYTHMIA USING SINGLE-CATHETER APPROACH.

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Objective To study the feasibility, safety and efficacy of 3-dimensional mapping and ablation of ventricular outflow tract ventricular tachyarrhythmia (OTVA) with single-catheter approach.

Methods A total of 78 patients with ventricular tachyarrhythmia were studied. There were 34 men and 44 women, with mean age of 41±11 years old. A Carto system and single catheter were used to reconstruct 3-dimensional ventricular geometry, to perform activation mapping, pacing, entrainment and substrate mapping, as well as to perform radiofrequency ablation. Image merging was performed with multidetector CT in part of patients. After ablation, following up were conducted regularly by regional doctors.

Result A total of 75 patients underwent ablation procedure, 73 were performed with single catheter approach. The ventricular tachyarrhythmia was successfully abolished in 71 patients. The distribution of successful ablation sites were as follow: septal wall of right ventricular outflow tract in 33 patients, free wall of right ventricular outflow tract in 18 patients, main pulmonary artery in five patients, left ventricular outflow tract in four patients, left aorta sinus in seven patients, right aorta sinus in four cases. The mean procedure time was 62±25 min, the mean fluoroscopy time was 12±8 min. Three patients developed right bundle branch block during procedure, two of them recovered after procedure. No other complications were founded. During follow-up of 2 to 38 months, ventricular tachyarrhythmia recurred in two patients.