Successful Catheter Ablation of Two Distinct Premature Ventricular Complexes Arising from Right Ventricular Outflow Tract Guided by EnSite NavX 3-D Mapping System with Multielectrode Basket Catheter

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Abstract

We present the case of a 43-year-old woman with two distinct idiopathic premature ventricular complexes (PVCs) arising from right ventricular outflow tract (RVOT) underwent catheter ablation. Type 1 PVC exhibited a high amplitude positive polarity in inferior leads with negative QRS complex in lead I. Type 2 PVC exhibited a deeply negative polarity in precordial leads with biphasic R wave in lead I. Simultaneous mappings of multielectrode basket catheter and EnSite NavX system revealed that the earliest of the both types of PVCs were identified on posteroseptal and anterolateral aspects of the RVOT, respectively. Radiofrequency (RF) applications were delivered at the both sites where the exact pace map was achieved, resulting in a disappearance of both types of PVCs. This case demonstrates that 12-lead ECG feature is essential tool for differentiating the two distinct PVCs arising from RVOT, and simultaneous mapping of EnSite NavX system with multielectrode basket catheter may potentially be helpful for safety and efficacy of RF catheter ablation with reduction in procedure time and low radiation exposure.

Key words: Premature ventricular complex, 3D mapping system, Multielectrode basket catheter, Radiofrequency catheter ablation