Successful Catheter Ablation of Hemodynamically Unstable Right Ventricular Outflow Ventricular Tachycardia Using a Single Beat Non-Contact Mapping

Miki Yamase, Yoshihisa Enjoji, Yuji Nakazato
Department of Cardiology, Juntendo University Urayasu Hospital Heart Center, Japan

A premature ventricular contraction (PVC) or ventricular tachycardia (VT) originated from right ventricular outflow tract (RVOT) is thought to be hemodynamically stable and not lead to sudden cardiac death. We experienced a rare case of hemodynamically unstable RVOT-VT patient with syncopal episode, which was cured by catheter ablation (CA) using a single beat non-contact mapping (NCM) guidance. 61 year-old female was admitted to our hospital because of syncopal episode. A monitor recording in the ambulance showed monomorphic VT. A 12 lead ECG after arrival revealed incessant form of VT with a configuration of left bundle branch block and inferior axis pattern. Trans-thoracic echocardiography showed no underlying heart disease and normal function. Anti-arrhythmic drugs was not enough to suppress PVC and VT episodes. An emergent CA was carried out. However, programmed ventricular stimuli failed to induce VT, spontaneous initiation of PVC and VT observed repeatedly. We made a single beat activation map using a NCM. The earliest activation site was targeted for CA under NCM navigation. After CA she has remained free of VT and syncopal episodes for 6 months. Conclusion: We experienced a rare case of non-reenrant incessant form of RVOT-VT with hemodynamically unstable condition. In such a case NCM guiding single beat mapping is useful for CA without time-consuming.

Keywords: RVOT-VT, non-contact mapping, syncope