Catheter Ablation of Reentrant Left Ventricular Tachycardia Associated with Fabry Disease: A Case Report

Emi Nakano1, Tomoo Harada2, Kyoko Soejima3, Toshio Sasaki3, Koichi Mizuno3, Fumihiko Miyake2,3, Kazutaka Aonuma1

1 Institute of Clinical Medicine, Graduate School of Comprehensive Human Science, University of Tsukuba, Cardiovascular Division, Japan, 2St.Marianna University School of Medicine, Cardiovascular Division, 3Kawasaki Municipal Tama Hospital, Cardiovascular Division

A 51-year-old man, who was diagnosed with Fabry disease resulting from a kidney biopsy for proteinuria and renal failure in 2002, was admitted to our hospital for sustained ventricular tachycardia (VT). In the electrophysiological study, VT (cycle length: 310 ms) was successfully induced by right ventricle programmed stimulation, the twelve-lead electrocardiogram showed a right bundle branch block configuration with right axis deviation. The mechanism of the VT was considered to be reentry by entrainment phenomenon. An electro-anatomical mapping system identified a low voltage area located close to the left ventricular anterior-apical wall. During VT an isolated pre-potential was recorded 42ms prior to the QRS onset near the border zone which was located between the low and normal voltage areas. At this mapping site entrainment with fusion and a post-pacing interval that matched the VT cycle length were observed. A radiofrequency energy delivery at this site the VT terminated after 35 seconds. The entrainment mapping could be useful to identify a critical reentry circuit path. This case is the first description of reentrant VT originated from the thickened left ventricle wall in a patient with Fabry disease.

Keywords: ventricular tachycardia, reentry, Fabry disease