Prophylactic Catheter Ablation Can Prolong Time to First Shock Therapy and Reduce Electrical Storm in Patients with Non Ischemic Cardiomyopathy Compared with Ischemic Cardiomyopathy

Atsushi Suzuki1, Akihiro Yoshida1, Asumi Takei1, Kaoru Takami1, Mitsuaki Ito1, Kimitake Imamura1, Ryudo Fujiwara1, Tomoyuki Nakashita1, Soichiro Yamashita1, Ken-ichi Hirata1, Katsunori Okajima2, Akira Shimane2

1Section of Arrhythmia, Division of Cardiovascular Medicine, Department of Internal Medicine, Kobe University Graduate School of Medicine, Japan, 2Hyogo Brain and Heart Center

Purpose: We assessed the efficacy of prophylactic catheter ablation in patients with sustained ventricular tachycardia (VT) and structural heart disease (SHD).

Methods: 135 consecutive patients with sustained VT and SHD (ischemic cardiomyopathy (ICM), n=55 and non-ischemic cardiomyopathy (NICM), n=80), received an implantable cardioverter defibrillator (ICD), were assessed retrospectively. We compared the clinical outcome in patients undergoing VT ablation before ICD (ABL group) with patients received ICD alone (ICD group). Successful ablation was defined as non-inducibility of clinical VT. Appropriate ICD therapy (shock and anti-tachycardia pacing) during follow-up was evaluated in both group.

Results: VT ablation was performed in 19 of 55 patients with ICM and in 36 of 80 patients with NICM, and succeeded in 12 of ICM, in 17 of NICM. In NICM patients, the time to first appropriate shock therapy and electrical storm (ES) are significantly longer in the successful ABL group than ICD group (p=0.030, p=0.047). Hazard ratio of ES was lower in NICM than in ICM (0.45 and 1.68).

Conclusion: Prophylactic catheter ablation can prolong time to first shock therapy and reduce electrical storm in patients with NICM.

Keywords: VT ablation, non ischemic cardiomyopathy