Long-term outcome of catheter ablation for electrical storm

Junji Morita
Kenichi Hiroshima
Yohei Sadohara
Rei Kuji
Jun Hirokami
Kengo Korai
Masato Fukunaga
Michio Nagashima
Kei Yamamoto
Kenji Ando

Introduction: The effectiveness of catheter ablation (CA) for electrical storm (ES) has been reported, however, long-term outcome is still unknown.

Methods: We enrolled consecutive patients undergoing CA for ES from Jan. 2006 to Apr. 2019 in large single center. ES was defined as the occurrence of ≥3 episodes of ventricular tachycardia (VT)/ventricular fibrillation (VF). Procedure of CA: CA was performed using 3D mapping system with moderate sedation CA strategy: Conducting channels were defined with substrate mapping, activation mapping and entrainment maneuvers depending on VT tolerance. End point was divided into 4 groups: (1) non-inducibility of any VT (2) non-inducibility of clinical VT (3) inducibility of clinical VT (4) no programmed stimulation.

Result: The study population consisted of 85 patients; mean age 70 ±12, female 18%, ischemic heart disease 55%. At a median follow-up of 30 months (mean, 30±28 months), 26 patients (31%) died, 15 as a result of cardiac causes (18%). The incidence of recurrence ES was lower in non-inducibility of any VT group (group 2 vs group 1: HR 4.6; 95% CI 1.26–21.5),(group 3 vs group 1: HR 9.4; 95% CI 2.48–44.8).

Conclusion: At a median follow-up of 30 months, 26 patients (31%) died, 15 as a result of cardiac causes (18%). The recurrence of ES was lower in non-inducibility of any VT group.