Clinical Characteristics and Predicting Factors of Electrical Storm in Patients with Ischemic Heart Disease and Left Ventricular Dysfunction

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Electrical storm (ES) is defined more than 3 times ICD therapy per day. Several papers reported that patients who have suffered from ES had poor prognosis and high mortality, therefore clinical characteristics and predicting factors of patients with ES should be identified. Method: The subject is consecutive 93 patients who had ischemic heart disease (IHD), left ventricular ejection fraction (LVEF) <35%, and implantable defibrillators. At the time of ICD implantation, mean age was 67±9.6 years, 77 patients (83%) were male and mean LVEF was 33±13%. NYHA class I, II, or III was 55, 22, or 16 patients, respectively. The outcomes of these patients was investigated retrospectively. Results: During a mean follow-up period of 41 months, 15 patients (15%) suffered from ES. Although there was no significant difference of age, gender, or LVEF between patients with ES and without ES, patients with ES had significantly higher prevalence of NYHA II or III. Cox-regression analysis revealed that the induction of monomorphic VT by non-invasive electrophysiologic study was the predicting factors of ES. Conclusion: In patients with IHD and LV dysfunction, the advanced state of heart failure is related to ES and monomorphic VT induction might predict the occurrence of ES. Keywords: electrical storm, ICD, heart failure