Implantable cardioverter defibrillator for primary prevention in ischemic cardiomyopathy

Ami Isshiki
Makoto Suzuki
Karina Hara
Mari Ohmori
Ryo Tateishi
Toshio Kaneda
Takanobu Ozawa
Yosuke Yamakami
Hirosi Shimada
Tomoko Mannno
Shiigeki Kimura
Masato Shimizu
Hiroyuki Fujii
Mitsuhito Nishizaki

Introduction: Implantable cardioverter-defibrillator (ICD) is the standard of care for prevention of sudden cardiac death in high risk patients. However, in recent years complete revascularization has also been reported that the prognosis is good. We investigated the working status of patients who were diagnosed with ischemic cardiomyopathy at our hospital and who were implanted with ICD as primary prevention, and examined the predictors of lethal ventricular arrhythmia occurrence.

Methods: Thirty-three consecutive patients who were given a diagnosis of ICM, and implanted with ICD for primary prevention from January 1994 to June 2018 were retrospectively studied. They were divided into 2 groups according to the occurrence of appropriate therapies during follow-up and their clinical variables and ECG parameters were compared.

Result: After a median follow-up of 93 months, 10 patients (30%) had an event of appropriate discharges. No clinical variables could predict the events including age (66 years in the event group vs 64 in the no-event group), smoking status, presence of angina, organic coronary stenosis, left ventricular ejection fraction (36% vs 36%) and wall thickness, and prescription of β blockers (80% vs 84%). No patients showed No significant difference was found in QRS duration, and QTc interval. But significant difference was found in PQ interval (217ms vs 190ms P=0.04).

Conclusion: In ischemic cardiomyopathy with low left ventricular ejection fraction, the incidence of fatal arrhythmia was high and difficult to predict.