

Prognostic role of left ventricular late gadolinium enhancement (LV-LGE) in patients who received implantable cardioverter defibrillator (ICD) for secondary prevention

G. Mattesi¹, E. Baldi², F. Guerra³, M. Toniolo⁴, A. Cipriani¹, F. Cauti⁵, L. Marcantoni⁶, M. Manfrin⁷, C. Lanzillo⁸, S. Savastano², A. Zorzi¹

¹University of Padova, Department of Cardiac, Thoracic and Vascular sciences, Padua, Italy; ²Policlinic Foundation San Matteo IRCCS, Pavia, Italy; ³Marche Polytechnic University of Ancona, Ancona, Italy; ⁴University Hospital Santa Maria della Misericordia, Udine, Italy; ⁵San Giovanni Calibita Hospital, Roma, Italy; ⁶Santa Maria della Misericordia Hospital, Rovigo, Italy; ⁷Central Hospital, Bolzano, Italy; ⁸Policlinico Casilino, Roma, Italy

Funding Acknowledgement: Type of funding source: None

Introduction: LV myocardial fibrosis detected as LGE on cardiac magnetic resonance (CMR) is a predictor of arrhythmic risk in primary prevention both in ischaemic and non-ischaemic cardiomyopathy. However, we still do not know the prognostic role of LV-LGE in patients who suffered cardiac arrest (CA).

Purpose: To evaluate the prognostic role of CMR, and in particular of LV-LGE suggesting myocardial scar, in predicting appropriate ICD interventions in secondary prevention patients.

Methods: Ninety-seven consecutive patients 1) aged ≥ 14 years 2) hospitalized for CA because of ventricular arrhythmias from 2009/01/01 3) who underwent/undergoing a CMR within one month from the event 4) who received/receiving an ICD for secondary prevention and 5) with at least 1 year-follow-up, were enrolled for this multicentric study.

Results: 97 patients (68 males, 70%), mean age 46 ± 16 years, were en-

rolled. Seventy-six percent of patients received bystander cardiopulmonary resuscitation (CPR) and ventricular fibrillation (VF) was the first rhythm in 86% of cases. ST elevation was present in 18% of cases at the admission; however, angiography was found negative in 80% of patients. Myocardial oedema and LGE were identified in 26% and 64% of patients respectively. A diagnosis was made in 83.5% of cases, while in the remaining 16.5% CA was considered idiopathic. During a four-year-follow-up, 25% of patients had appropriate ICD therapy (10% of which ATP only). A significant correlation between LGE and appropriate ICD intervention was not found ($p=0.89$).

Conclusions: One fourth of patients who received ICD for secondary prevention had appropriate ICD therapy during a four-year-follow-up. In this setting, LV-LGE does not provide a prognostic value.

