



Figure. Kaplan-Meier curves for the VT recurrence- or ICD therapy-free survival of patients undergoing VT ablation. A: Comparison of patients managed using a CMRI-aided ablation strategy with controls. B: The same comparison placing in the control group patients with available CMRI pixel signal intensity maps but with integration performed with the navigation system. CMRI, cardiac magnetic resonance imaging; ICD, implantable cardioverter-defibrillator; VT, ventricular tachycardia. Reproduced with the permission of Andreu et al.⁴

help to alter the prognosis and the therapeutic approach to this condition.

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Available online 13 February 2018

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<https://doi.org/10.1016/j.rec.2018.01.004>

<https://doi.org/10.1016/j.rec.2017.12.010>
1885-5857/

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Selection of the Best of 2017 in Implantable Defibrillators



Selección de lo mejor del año 2017 en desfibriladores implantables

To the Editor,

This letter provides a review of some of the most important studies published since September 2016 in the field of implantable cardioverter-defibrillators (ICDs).

The primary prevention indication for ICDs in patients with ventricular dysfunction caused by nonischemic cardiomyopathy (NICM) is still under debate; this year, several meta-analyses that provide relevant information have been published. Golwala et al.¹ identified 6 clinical trials that compared ICD implantation, including ICD with cardiac resynchronization therapy, with optimal medical treatment (OMT) in 2970 patients. ICD was associated with a significant 23% reduction in mortality (hazard ratio [HR], 0.77; 95% confidence interval [CI], 0.64–0.91). After the performance of separate analyses of the trials (or treatment arms) that compared ICD without CRT and OMT without TRC, the

reduction in mortality was 24% (HR, 0.76; 95% CI, 0.62–0.94). However, in the analysis of studies that included patients with CRT, the mortality reduction was not statistically significant (HR, 0.70; 95% CI, 0.39–1.26).

Shun-Shin et al.² have published another meta-analysis of all studies that have analyzed the effect of ICD placement (with or without CRT) indicated for primary prevention in patients with ventricular dysfunction whether of ischemic origin or not. Perhaps the most interesting aspect of that study, in line with that discussed above, was that ICD placement was associated with a significant 26% reduction in overall mortality (HR, 0.74; 95% CI, 0.64–0.90) in patients with NICM (from 6 clinical trials); this effect was almost identical to that observed in patients with ischemic ventricular dysfunction (HR, 0.76; 95% CI, 0.60–0.96). Taking both studies together, and in the opinion of the authors, we can assume that the benefit of ICD in NICM is based on sufficiently solid scientific evidence to maintain the recommendations of the European Society of Cardiology in their clinical practice guidelines.³ However, ICD does not appear to provide prognostic benefit compared with OMT in patients with CRT.

A retrospective analysis of the SCD-HeFT⁴ trial studied the effect of ICD placement in 1273 patients in terms of whether or not

improvement was observed ($>35\%$ or $\leq 35\%$, respectively) in a re-evaluation of left ventricular ejection fraction (LVEF) (mean of 13.5 months until re-evaluation). Approximately 29% of patients showed an increase in LVEF at the first reevaluation. As expected, mortality was greater among individuals whose LVEF remained below 35%. In those patients alone, ICD was associated with a significant and independent reduction in mortality (HR, 0.64; 95% CI, 0.48–0.85).

Although ICD for primary prevention improves survival in patients with prior infarction and reduced LVEF, the variables used to define the indication (LVEF and functional class) are not very specific markers of sudden cardiac death due to cardiac arrhythmia. Rizas et al.⁵ published the results of a subanalysis of the MADIT II study showing that a noninvasive tool for assessing myocardial electrical stability (periodic repolarization dynamics [PRD]) is a promising predictor of sudden death. The variable is derived from a complex mathematical formula applied to a high-resolution electrocardiogram obtained over 10 minutes. It behaves as marker directly proportional to the degree of sympathetic activation of the myocardium. In that study, PRD calculated on inclusion of 856 patients in sinus rhythm behaved as a significant predictor of overall mortality (HR, 1.37; $P<.001$), whether related to sudden cardiac death (HR, 1.40; $P=.003$) or not (HR, 1.41; $P=.006$). On classification of patients into 4 groups according to PRD, only those in the first to third percentiles benefitted from ICD implantation, with a 56% decrease in mortality ($P<.001$); for those individuals with highest PRD values, ICD placement did not improve survival because the decrease in sudden cardiac death was compensated by increased mortality not associated with sudden cardiac death.

With regards subcutaneous ICD, the mid-term outcomes of the EFFORTLESS registry have been reported.⁶ The study included a cohort of 985 individuals, whose characteristics differed from those usually found in patients undergoing conventional ICD placement (lower age and higher LVEF). These patients were followed up for at least 12 months. The rate of device-related complications (primary outcome measure of the study) at 30 days and 1 year was 0.3% (95% CI, 0–0.6%) and 2% (95% CI, 1.3%–3.1%), respectively, with inappropriate shock due to oversensing being the most frequent (11 patients [1.1%]). In total, 115 patients (11.7%) experienced a complication during follow-up. Of these, 24 (2.4%) required device extraction due to infection but endocarditis was not reported in any of the patients. The rate of effective cardioversion/defibrillation of spontaneous episodes was 97.4%. Thus, in this extensive series, subcutaneous ICD showed a similar efficacy and safety profile to that of conventional devices.

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Available online 6 February 2018

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<https://doi.org/10.1016/j.rec.2017.12.011>

<https://doi.org/10.1016/j.rec.2018.01.004>
1885-5857/

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Selection of the Best of 2017 in Clinical Arrhythmology



Selección de lo mejor del año 2017 en arritmología clínica

To the Editor,

Atrial fibrillation (AF) continues to be the most common arrhythmia, with a prevalence of around 1% to 2% in the general population. In the setting of arrhythmia, it is the leading cause of morbidity and mortality, and the focus of the majority of

scientific production. This year has seen the publication of information on the role of direct oral anticoagulants in the prevention of cardioembolic stroke in AF. There have been numerous efficacy and safety studies in clinical practice, most of which are multicenter retrospective studies, but which support the conclusions of previous clinical trials and reinforce the fundamental role of these drugs in the prevention of stroke vs vitamin K antagonists (VKA).¹ In addition, the RE-CIRCUIT² study demonstrated a lower rate of major bleeding when performing AF ablation without interrupting dabigatran therapy compared with conventional treatment with VKA. These findings confirm