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

Eva M. Benito\textsuperscript{a,}\textsuperscript{b} and Lluís Mont\textsuperscript{a,}\textsuperscript{b,}\textsuperscript{c,}\textsuperscript{*}
\textsuperscript{a}Departamento de Cardiología, Unitat de Fibril·lació Auricular (UFA), Hospital Clínic, Universitat de Barcelona, Barcelona, Spain
\textsuperscript{b}Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona, Spain
\textsuperscript{c}CIBER de Enfermedades Cardiovasculares, Instituto de Salud Carlos III, Madrid, Spain
\textsuperscript{*}Corresponding author: E-mail address: lmont@clinic.cat (L. Mont).

Available online 13 February 2018

REFERENCES


---

**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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{2} However, ICD does not appear to provide prognostic benefit compared with OMT in patients with CRT.

A retrospective analysis of the SCD-HeFT\textsuperscript{4} trial studied the effect of ICD placement in 1273 patients in terms of whether or not

---

SEE RELATED CONTENT:

https://dx.doi.org/10.1016/j.rec.2018.01.004

https://dx.doi.org/10.1016/j.rec.2017.12.010
1885-5857/ © 2017 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.
improvement was observed (>35% or ≤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 re-evaluation. 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.1 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 benefited 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, 0.0-0.6%) 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.

Javier Jiménez-Candil,a,b,∗ Ernesto Díaz Infante,c José M. Guerra,b,d and Nicasio Pérez-Castellano,b,e

∗Unidad de Arritmias, Servicio de Cardiología, Instituto de Investigación Biomédica de Salamanca (IBSAL)-Hospital Universitario de Salamanca, Facultad de Medicina, Universidad de Salamanca, Salamanca, Spain
 Centro de Investigación Biomédica en Red de Enfermedades Cardiovasculares (CIBERCV), Instituto de Salud Carlos III, Madrid, Spain
 Unidad de Arritmias, Servicio de Cardiología, Hospital Universitario Virgen Macarena, Sevilla, Spain
 Servicio de Cardiología, Hospital de la Santa Creu i Sant Pau, Institut d’Investigació Biomèdica-Sant Pau, Universitat Autònoma de Barcelona, Barcelona, Spain
 Unidad de Arritmias, Instituto Cardiovascular, Instituto de Investigación Sanitaria del Hospital Clínico San Carlos (IdISSC), Madrid, Spain

Corresponding author:
E-mail address: jimenezcandil@secardiologia.es
(J. Jiménez-Candil).

Available online 6 February 2018

REFERENCES


See related content:
https://doi.org/10.1016/j.rec.2017.12.010
https://doi.org/10.1016/j.rec.2018.01.004
1885-5857/© 2017 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

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

Javier Jiménez-Candil,a,b,∗ Ernesto Díaz Infante,c José M. Guerra,b,d and Nicasio Pérez-Castellano,b,e

See related content:
https://doi.org/10.1016/j.rec.2017.12.010
https://doi.org/10.1016/j.rec.2018.01.004
1885-5857/© 2017 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

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