

## Update: Arrhythmias

## Arrhythmias: Introduction

## Arritmias: Introducción

Antoni Bayes-Genis,<sup>a,\*</sup> Pablo Avanzas,<sup>a</sup> Leopoldo Pérez de Isla,<sup>a</sup> Juan Sanchis,<sup>a</sup> and Magda Heras<sup>b</sup><sup>a</sup> Associate Editor, Revista Española de Cardiología<sup>b</sup> Editor in Chief, Revista Española de Cardiología

## Article history:

Available online 13 November 2011

Arrhythmology has undergone a revolution in recent years, as have most disciplines in cardiology. Specifically, the last 30 years have produced major advances which constitute landmarks in modern medicine and place arrhythmology as a section of cardiology with a well-defined personality that should have its own unit within cardiology departments. The most relevant advances are: *a*) the appearance of ablation techniques,<sup>1,2</sup> which have revolutionized the treatment of supraventricular and ventricular tachyarrhythmias and have demonstrated efficacy in the extremely prevalent arrhythmia of atrial fibrillation; *b*) the efficacy of implantable cardioverter-defibrillators for avoiding sudden death<sup>3</sup>; *c*) the use of resynchronization pacemakers to treat a large number of patients with heart failure,<sup>4</sup> and *d*) the identification of new arrhythmogenic entities of genetic origin, known as channelopathies, which explain unexpected sudden death, especially in young patients.<sup>5-7</sup>

As in previous editions of the *Revista Española de Cardiología*,<sup>8-10</sup> in this new edition of "Update" 2012 we have considered the foremost representatives of each type of arrhythmia, with the end goal of providing clinical cardiologists, cardiology residents, and internal medicine and family doctors with the anatomical and electrophysiological information necessary for understanding the mechanisms and to correctly and precisely diagnose and treat these conditions.

The first chapter in this "Update" series will be dedicated to an organizational and management issue: the structuring of 21st century arrhythmia units. Arrhythmia units are becoming increasingly complex, and their personnel must manage patients (first visits and follow-up), device implantation and monitoring (both in situ and remote), and ablations (right and left cavities), as well as teaching and research activities. Dr Kuck proposes an efficient and modern organizational model.

The next two articles, compiled by Drs Marchlinski and Priori, give a detailed and very didactic description of both electrophysiological and genetic mechanisms behind arrhythmias. In addition to providing basic fundamental details, the chapters associate them with the different arrhythmogenic conditions that a physician has to face. Next chapters, analyze the causes, clinical manifestations, and treatment options for common tachyarrhythmias: paroxysmal supraventricular tachycardia, flutter and atrial tachycardia, atrial fibrillation, and ventricular tachyarrhythmias.

In later articles, the latest advances in bradyarrhythmias and conduction blocks are discussed, along with the usefulness of noninvasive tools in arrhythmology in 2012. A separate chapter is dedicated to cardiac resynchronization therapy, discussing criteria for indications as well as the descriptions and arguments for contraindications. The two 2011 last issues of the *Revista Española de Cardiología* will broach the issues of syncope and sudden death, headed by Dr Moya and Dr Bayes de Luna. Dr Moya has played a leading role in the creation of the latest European guidelines for syncope, and Dr Bayes de Luna has dedicated a great deal of his career to the identification of mechanisms that trigger sudden death, both in healthy subjects and those with cardiopathies.

We hope that, after reading this series of "Update" chapters, our readers will have acquired some new basic information that will allow them, in daily clinical practice, to face the often difficult challenge of efficiently and quickly diagnosing and treating patients with arrhythmia.

## REFERENCES

1. Scheinman MM, Morady F, Hess DS, Gonzalez R. Catheter-induced ablation of the atrioventricular junction to control refractory supraventricular arrhythmias. *JAMA*. 1982;248:851-5.
2. Gallagher JJ, Svenson RH, Kasell JH, German LD, Bardy GH, Broughton A, et al. Catheter technique for closed-chest ablation of the atrioventricular conduction system. *N Engl J Med*. 1982;306:194-200.
3. Mirowski M, Reid PR, Mower MM, Watkins L, Gott VL, Schauble JF, et al. Termination of malignant ventricular arrhythmias with an implanted automatic defibrillator in human beings. *N Engl J Med*. 1980;303:322-4.
4. Cazeau S, Leclercq C, Lavergne T, Walker S, Varma C, Linde C, et al.; Multisite Stimulation in Cardiomyopathies (MUSTIC) Study Investigators. Effects of multisite biventricular pacing in patients with heart failure and intraventricular conduction delay. *N Engl J Med*. 2001;344:873-8.
5. Curran ME, Splawski I, Timothy KW, Vincent GM, Green ED, Keating MT. A molecular basis for cardiac arrhythmia: HERG mutations cause long QT syndrome. *Cell*. 1995;80:795-803.
6. Wang Q, Shen J, Splawski I, Atkinson D, Li Z, Robinson JL, et al. SCN5A mutations associated with an inherited cardiac arrhythmia, long QT syndrome. *Cell*. 1995;80:805-11.
7. Brugada J, Brugada R, Brugada P. Right bundle-branch block and ST-segment elevation in leads V1 through V3: a marker for sudden death in patients without demonstrable structural heart disease. *Circulation*. 1998;97:457-60.
8. Bermejo J, Heras M, Segovia J, Alfonso F. Medicina cardiovascular traslacional. Ahora o nunca. *Rev Esp Cardiol*. 2009;62:66-8.
9. Segovia J, Bermejo J, Alfonso F, Heras M. Corazón derecho y circulación pulmonar: ¿una circulación menor? *Rev Esp Cardiol*. 2010;63:77-80.
10. Pérez de Isla L, Avanzas P, Bayes-Genis A, Sanchis J, Heras M. Enfermedades sistémicas y corazón: introducción. *Rev Esp Cardiol*. 2011;64:60-1.

\* Corresponding author: Revista Española de Cardiología, Sociedad Española de Cardiología, Nuestra Sra. de Guadalupe 5, 28028 Madrid, Spain.

E-mail address: [rec@revescardiologia.org](mailto:rec@revescardiologia.org) (A. Bayes-Genis).