

Special Article

Spanish Pacemaker Registry. Twelfth Official Report of the Spanish Society of Cardiology Working Group on Cardiac Pacing (2014)

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SUMMARY

Introduction and objectives: This report describes the results of the analysis of pacemaker implant and replacement data submitted to the Spanish Pacemaker Registry in 2014, with special reference to pacing mode selection.**Methods:** The report is based on the processing of information provided by the European Pacemaker Patient Identification Card.**Results:** Information was received from 117 hospitals, with a total of 12 358 cards, representing 34% of estimated activity. Use of conventional generators and resynchronization devices was 784 and 64.4 units per million population, respectively. The mean age of patients receiving an implant was 77.3 years. Men received 59% of implants and 56.4% of replacements. Most patients receiving generator implants and replacements were in the age range 80 to 89 years. Most endocardial leads used were bipolar, and 84.2% had an active fixation system. Pacing was in VVI/R mode despite being in sinus rhythm in 24.7% of patients with sick sinus syndrome and 24% of those with atrioventricular block.**Conclusions:** The use of pacemaker generators and resynchronization devices per million population continued to increase. Most implanted leads had active fixation and approximately 20% had magnetic resonance imaging protection. Age and sex directly influenced pacing mode selection, which could have been improved in more than 20% of cases.

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Registro Español de Marcapasos. XII Informe Oficial de la Sección de Estimulación Cardíaca de la Sociedad Española de Cardiología (2014)

RESUMEN

Introducción y objetivos: Se describe el resultado del análisis de los implantes y recambios de marcapasos remitidos al Registro Español de Marcapasos en 2014, con especial referencia a la selección de los modos de estimulación.**Métodos:** Se basa en el procesado de la información que aporta la Tarjeta Europea del Paciente Portador de Marcapasos.**Resultados:** Se recibió información de 117 centros hospitalarios, con un total de 12.358 tarjetas, el 34% de la actividad estimada. El consumo de generadores convencionales y dispositivos de resincronización fue de 784 y 64,4 unidades por millón de habitantes respectivamente. La media de edad de los pacientes que recibieron un implante fue 77,3 años. El 59% de los implantes y el 56,4% de los recambios se realizaron en varones. La mayoría de los implantes y los recambios de generadores se produjeron en la franja de los 80–89 años. Los cables endocavitarios utilizados son bipolares, el 84,2% con sistema de fijación activa. Se estimula en modo VVI/R pese a estar en ritmo sinusal al 24,7% de los pacientes con enfermedad del nódulo sinusal y el 24% de aquellos con bloqueo auriculoventricular.**Conclusiones:** Continúa el aumento en el consumo de generadores de marcapasos y dispositivos de resincronización por millón de habitantes. La mayor parte de los cables implantados son de fijación activa y aproximadamente un 20% tiene protección para resonancia magnética. La edad y el sexo se muestran como factores directamente relacionados con la elección del modo de estimulación. En más del 20% de los casos podría mejorarse la elección del modo de estimulación.

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Palabras clave:

Marcapasos
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Abbreviations

AVB: atrioventricular block
 CRT: cardiac resynchronization therapy
 EPPIC: European Pacemaker Patient Identification Card
 SSS: sick sinus syndrome

INTRODUCTION

The first official report of the Spanish Pacemaker Registry (SPR) (*Registro Español de Marcapasos*) was published in 1997,¹ although the first data were obtained using a survey in 1989.² Since then, an annual report has been published, which aims to describe the cardiac pacemaker procedures performed in Spain.^{3–14} The present report refers to activity from the year 2014. It allows publication of the current clinical practice carried out in Spanish hospitals, the appropriateness of this activity in line with current clinical guidelines,^{15,16} the evolving trends in interventions in recent years, and comparison with the activity of other European countries.^{17–19} The web site of the Spanish Society of Cardiology Working Group on Cardiac Pacing allows publication of most of the annual information provided by the SPR for the period 1999 to 2011,²⁰ although some information might be unavailable due to changes over time (expansions and/or updates).

METHODS

The SPR has 3 information sources: the European Pacemaker Patient Identification Card (EPPIC), information provided by manufacturers, and census data supplied by the Spanish National Institute of Statistics.

European Pacemaker Patient Identification Card

The EPPIC for each patient, completed by the participating hospitals, includes an automatically-generated copy that is sent to the SPR. This allows the SPR to use the information it contains: sex, age, etiology, symptoms, electrocardiographic indications, pacing mode, type of generator and electrodes, and date of implantation of each component. The information can also be sent electronically from the hospital databases, provided they contain the data required on the EPPIC. The Spanish Society of Cardiology Working Group on Cardiac Pacing is currently developing a database for automatic information collection and processing, which will require compulsory completion for each patient to obtain an EPPIC. It is expected that by 2016, this will be the method of choice for sending data, as it is already available.

Information From the Manufacturers

Despite current legislation on monitoring of possible alerts (Royal Decree 1616/2009, dated 26 October, which regulates active implantable medical devices), not 100% of EPPICs were sent. Therefore, the data on the number of implanted devices and the distribution by autonomous community was provided by the manufacturers. This information was also sent periodically to the European Confederation of Medical Suppliers Associations (EUCOMED).

Report From the Spanish National Institute of Statistics

The population figures for calculations related to devices, at both a national level and for the autonomous communities, were

Table

The Public and Private Hospitals That Submitted Data to the 2014 Pacemaker Registry, Grouped by Autonomous Community

Andalusia	Clínica Santa Isabel
	Complejo Hospitalario de Jaén
	Complejo Hospitalario Ntra. Sra. de Valme
	Complejo Hospitalario Virgen Macarena
	Hospital Costa del Sol
	Hospital del Servicio Andaluz de Salud de Jerez de la Frontera
	Hospital General Río Tinto
	Hospital Infanta Elena
	Hospital Juan Ramón Jiménez
	Hospital Punta de Europa
	Hospital Quirón Nisa Sevilla
	Hospital Sevilla Aljarafe
	Hospital Virgen de la Victoria
Aragon	Hospital Miguel Servet
	Hospital Royo Villanova
Canary Islands	Clínica Parque
	Clínica Ntra. Sra. del Rosario
	Clínica Quirón
	Clínica Santa Cruz
	Hospital de La Candelaria
	Hospital Dr. Negrín
	Hospital General de La Palma
	Hospital General de Lanzarote (José Molina Orosa)
	Hospital Insular
Hospital de La Gomera	
Cantabria	Hospital San Juan de Dios
	Hospital Universitario de Canarias
Cantabria	Hospital Universitario Marqués de Valdecilla
Castile and León	Complejo Hospitalario de León
	Hospital Clínico Universitario de Salamanca
	Hospital Universitario del Río Hortega
	Hospital General de Segovia
	Hospital General Virgen de La Concha
	Hospital Universitario de Burgos
	Hospital Universitario de Valladolid
Castile-La Mancha	Clínica IDC Albacete
	Hospital Capiro
	Hospital General de Ciudad Real
	Hospital General Virgen de la Luz
	Hospital General y Universitario de Guadalajara
	Hospital Virgen de la Salud
Catalonia	Complejo Hospitalario Parc Taulí
	Hospital Clínic i Provincial de Barcelona
	Hospital de Tortosa Virgen de la Cinta
	Hospital Universitari Arnau de Vilanova
	Hospital de Mataró
	Hospital de Terrassa
	Hospital del Mar
	Hospital del Vendrell
	Hospital Germans Trias i Pujol
	Hospital Universitari de Tarragona Joan XXIII
	Hospital Mútua de Terrassa
Hospital de Sant Pau i Santa Tecla	

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