

inherent to such studies. However, the results show the need to reduce the length of time from admission to the ED to admission to a hospitalization ward in order to lower the risk of patients developing delirium. Such reductions would decrease total hospitalization times and therefore lead to lower health costs.

Laura de Pablos,<sup>a</sup> Rita Ainhoa Jorge-Brito,<sup>a</sup> Veena Amarnani,<sup>b</sup> Alejandro Jiménez-Sosa,<sup>c</sup> Magali González-Colaço Harmand,<sup>d</sup> and Alberto Domínguez-Rodríguez<sup>a,b,\*</sup>

<sup>a</sup>Facultad de Ciencias de la Salud, Universidad Europea de Canarias, La Orotava, Santa Cruz de Tenerife, Spain

<sup>b</sup>Servicio de Cardiología, Hospital Universitario de Canarias, San Cristóbal de La Laguna, Santa Cruz de Tenerife, Spain

<sup>c</sup>Unidad de Investigación, Hospital Universitario de Canarias, San Cristóbal de La Laguna, Santa Cruz de Tenerife, Spain

<sup>d</sup>Servicio de Farmacología Clínica, Hospital Universitario de Canarias, San Cristóbal de La Laguna, Santa Cruz de Tenerife, Spain

\* Corresponding author:

E-mail address: [adrvdg@hotmail.com](mailto:adrvdg@hotmail.com) (A. Domínguez-Rodríguez).

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## Current Status of Cardio-Oncology in Spain: A National Multidisciplinary Survey



### Situación actual de la Cardio-Oncología en España: encuesta nacional multidisciplinaria

#### To the Editor:

Following the publication of the Spanish Position Paper on Cardio-Oncology,<sup>1</sup> Hematología, in order to evaluate the current status of the field of cardio-oncology in Spain, our National Cardio-Oncology Working Group, composed of representatives of the Spanish Societies of Cardiology (SEC), Medical Oncology (SEOM), Hematology and Hemotherapy (SEHH) and Radiation Oncology (SEOR), conducted a nationwide survey aiming to analyze the perceived importance of the screening and management of cancer-related cardiovascular (CV) complications and the institutional relationship among specialists involved in the care of cancer patients (supplementary material).

We designed an electronic survey distributed nationwide through the 4 above-mentioned scientific societies. Only 1 questionnaire was delivered to division chiefs; however, answers by heads of section and assistants were accepted. The study period was from September 2016 to June 2017. Multiple electronic reminders were sent to nonrespondents during this period.

A total of 202 answers were received: 58 (29%) from medical oncologists, 36 (18%) from hematologists, 51 (25%) from radiation oncologists, and 57 (28%) from cardiologists. The overall response rate was 39%. Most of the responses came from tertiary hospitals (65.3%).

The survey asked the responder to score the perceived importance of various key points related to cardiotoxicity from 1 (least important) to 10 (most important). The Figure reflects the percentage of respondents from each specialty who considered each issue very important (score 8 to 10). Most participants (87%) agreed that potential CV complications related to cancer therapy must be monitored and felt that a structured network among specialties and standardized protocols might improve the complex care of patients with cancer and CV disease (87% and 79%, respectively). They recognized the value of identifying and treating CV risk factors (82%), and 77% of them considered the development of long-term survivorship programs highly important. The existing

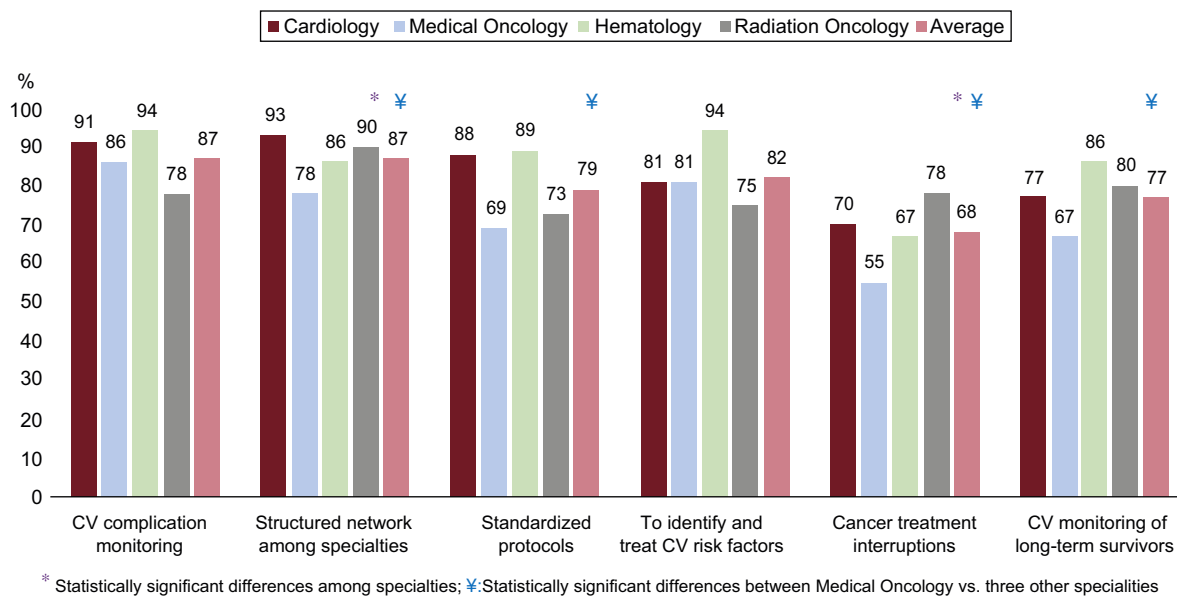
literature suggests that early cancer treatment interruptions had a negative impact on cancer prognosis<sup>2</sup>; however, the perceived importance of this issue was less consistent across respondents (ranging from 55%–78%).

While most respondents felt that cardiotoxicity had a strong impact on cancer patients, only 24 centers (12%) reported the existence of a structured cardio-oncology unit. Thirty additional respondents (14.8%) had a dedicated cardiologist in charge of the care of patients with cancer-related CV complications. Unfortunately, the remaining 148 centers (73.3%) offered no specific cardio-oncology services, but 76 (13.4%) participants planned to add them in the near future.

Most of the centers reported that the main barriers to the establishment of a cardio-oncology unit were departmental priorities (38.6%), lack of funding (5.9%), and the absence of evidence-based guidelines and attending physicians with specialized training (17%).

In 71% of centers, the baseline assessment of cardiotoxicity risk and the decision to refer patients to the cardiology outpatient clinic were performed by cancer specialists. Follow-up focused on cardiotoxicity was scheduled according to a specific protocol in only 25% of the centers; accordingly, in up to 58% of the centers, this monitoring was carried out without a specific protocol. In all, 94% of participants confirmed the use of echocardiography as the first technique for cardiac monitoring. However, 37% of them reported that they still used isotopic ventriculography due to the lower availability of echocardiography in their centers. Only half of the participants reported the use of cardiac biomarkers in their clinical practice and there was wide heterogeneity among specialties. Once cardiotoxicity occurs, 27% of participants reported that all patients were evaluated by the cardio-oncology team or referred to the cardiology clinic. However, 60% stated that only selected patients were referred to a cardiologist (Table).

Our results reflect a meaningful awareness of the detrimental impact of cardiac toxicity on the outcome of cancer patients. This is in the same line as previous surveys, in which most participants acknowledged CV toxicity from cancer treatments.<sup>3,4</sup> 36% Nevertheless, the percentage of centers with an established cardio-oncology unit is far lower in our country (12%) compared with the rate of 27% reported in hospitals in the United States.<sup>3</sup> Since baseline assessment of cardiotoxicity risk is generally performed by noncardiologists in our setting, local monitoring protocols are



**Figure.** Average number of respondents from each specialty who considered each question as very important (score 8 to 10) on a scale from 1 to 10 points. Questions: 1. How important is monitoring patients for CV complications during cancer treatment period? 2. Do you think it is necessary to implement a structured network among the distinct specialties involved in the care of cancer patients? 3. Do you think the development of a standardized protocol for the follow-up of CV complications is important? 4. Do you consider it essential to identify and treat CV risk factors in cancer patients? 5. How important is the impact of cancer treatment interruptions in cancer prognosis? 6. Do you believe long-term monitoring cancer survivors for CV complications is valuable? CV, cardiovascular.

**Table**  
Main Results Regarding Cardiotoxicity Risk Assessment, Methods for Monitoring, and Management

	Medical oncology, %	Radiation oncology, %	Hematology, %	Cardiology, %	Overall, %
Baseline evaluation of CTX risk is performed by a cancer specialist	68.9	74.5	77.1	67.2	71.3
Cardiac monitoring during cancer treatment with no protocol	56.9	47.5	61.1	66.7	58.5
Echocardiography is used for CTX screening	98.3	85.4	94.4	98.2	94.5 <sup>b</sup>
Echocardiography is the imaging technique of choice used for CTX screening <sup>a</sup>	64	31.4	58	86	63.4 <sup>b</sup>
Isotopic ventriculography is used for CTX screening.	41.4	52	23	28	36.9 <sup>b</sup>
Isotopic ventriculography is the imaging technique of choice used for CTX screening <sup>a</sup>	24.1	41.1	17.6	5.2	25.2 <sup>b</sup>
11.1 Biomarkers are used for CTX screening	34.5	31.8	72.2	59.6	48.2 <sup>b</sup>
Patients with overt CTX are assessed by cancer and cardiology specialists jointly	47.4	21.6	19.4	17.5	27.4 <sup>b</sup>
Patients with overt CTX are assessed by a cancer specialist and only selected individuals are referred to a cardiologist	47.4	56.9	66.7	71.9	60.2 <sup>b</sup>
Less than 100 new cancer patients referred for cardiology consultation annually	NA	NA	NA	52.6%	NA
Number of echocardiography studies done in cancer patients	NA	NA	NA	< 100: 24.6% 100-500: 47.4% 500-1000: 19.3% > 1000: 7.0% Don't know/no answer: 1.7%	NA
Number of cardiac imaging studies done in cancer patients	NA	NA	NA	< 100: 28% 100-500: 31.6% 500-1000: 12.3% > 1000: 10.5% Don't know/no answer: 17.5%	NA

CTX, cardiotoxicity; NA, not applicable.

<sup>a</sup> Respondents graded the highest priority for each imaging test.<sup>1</sup>

<sup>b</sup> Statistically significant differences among specialties (chi-squared test).

mandatory to improve CV care. Our survey underscores the need for close collaboration between cancer specialists and cardiologists, further specific education, and more resources to allow the existence of a well-established cardio-oncology structure.

The limitations of our study are the response rate and the heterogeneous distribution of respondents among the specialties.

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#### SUPPLEMENTARY MATERIAL



Supplementary material associated with this article can be found in the online version available at <https://doi.org/10.1016/j.rec.2017.11.002>.

Ana Martín-García,<sup>a,b,\*</sup> Cristina Mitroi,<sup>a,c</sup> Ramón García Sanz,<sup>a,d</sup> Ana Santaballa Bertrán,<sup>a,e</sup> Meritxell Arenas,<sup>a,f</sup> and Teresa López-Fernández<sup>a,g</sup> Spanish National Cardio-Oncology Working Group

<sup>a</sup>Comisión de Trabajo Nacional de Cardio-Oncología Sociedad Española de Cardiología-Sociedad Española de Oncología Médica-Sociedad Española de Oncología Radioterápica-Sociedad Española de Hematología y Hemoterapia, Spain

<sup>b</sup>Servicio de Cardiología, Complejo Asistencial Universitario de Salamanca (CAUSA), Instituto de Investigación Biomédica de Salamanca (IBSAL), Facultad de Medicina-Universidad de Salamanca, CIBER-CV, Salamanca, Spain

<sup>c</sup>Servicio de Cardiología, Hospital Universitario Puerta de Hierro, Majadahonda, Madrid, Spain

<sup>d</sup>Servicio de Hematología, Complejo Asistencial Universitario de Salamanca (CAUSA), Instituto Universitario de Biología Molecular y Celular del Cáncer-IBMCC (USAL-CSIC), Instituto de Investigación Biomédica de Salamanca (IBSAL), Salamanca, Spain

<sup>e</sup>Servicio de Oncología Médica, Hospital Clínico Universitario y Politécnico La Fe, Grupo de Investigación Traslacional en Cáncer del Instituto de Investigación Sanitaria La Fe, Valencia, Spain

<sup>f</sup>Servicio de Oncología Radioterápica, Hospital Universitario San Juan de Dios, Universidad Rovira i Virgili (URV), Instituto de Investigación Sanitaria (IISPV), Reus, Tarragona, Spain

<sup>g</sup>Servicio de Cardiología, Hospital Universitario La Paz, Instituto de Investigación La Paz, CIBER-CV, Madrid, Spain

\*Corresponding author:

E-mail address: [anamartin.amg@gmail.com](mailto:anamartin.amg@gmail.com) (A. Martín-García).

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#### Are Dentists in Our Environment Correctly Following the Recommended Guidelines for Prophylaxis of Infective Endocarditis?



#### ¿Los odontólogos de nuestro medio siguen correctamente las pautas de profilaxis de endocarditis infecciosa recomendadas?

#### To the Editor,

Infective endocarditis (IE) is a serious infection, with a very high mortality rate; prevention is essential. Before the publication of the North American clinical practice guidelines (CPG) in 2007<sup>1</sup> and the European guidelines in 2009,<sup>2</sup> IE prophylaxis was recommended for patients with high or moderate risk heart disease. In those CPGs, the indications were limited to patients with high risk of IE (previous IE, valve replacements, cyanotic congenital heart disease, or congenital heart disease repairs with prosthetic material) and only in certain dental procedures or manipulations.<sup>1,2</sup> The 2008 British NICE guidelines recommended no IE prophylaxis in any situation.<sup>3</sup> In the most recent European CPG from 2015, recommendations were unchanged from 2009.<sup>4</sup> These differences could lead to uncertainty about the approach to patients with possible risk of IE, as was already suggested by a previous study carried out in Spain.<sup>5</sup> Our aim was to describe the current practice of dentists in view of these recommendations and

analyze whether the approaches were uniform in 2 Spanish provinces.

One-hundred dentists from Córdoba and 100 from Seville were invited to complete a questionnaire on IE prophylaxis, via the Official College of Dentists of Córdoba and the Faculty of Dentistry of the University of Seville. The questionnaire was completed in full by 142 dentists; 62 in Seville and 80 in Córdoba (71% of all those invited; 62% in Seville and 80% in Córdoba). The chi-square test was used for comparisons between groups.  $P < .05$  was considered statistically significant. There were no differences between the 2 provinces regarding the dentists' age ( $44 \pm 9$  years in Seville vs  $45 \pm 10$  years in Córdoba), years of practice ( $16 \pm 5$  vs  $17 \pm 5$  in Córdoba) or sex (61.3% female in Seville and 51.2% in Córdoba, difference not statistically significant). Almost all (95.2%) of the respondents in Seville and 98.8% of those in Córdoba used prophylaxis in their everyday practice. **Table 1A** shows the dental procedures for which IE prophylaxis is indicated for at-risk patients. In most situations with a clear indication (surgery, implants, extractions, endodontics) or without indication (X-rays, anesthesia, removal of sutures, taking impressions for a prosthesis, fitting a removable prosthesis and orthodontic brackets), there was high compliance with the recommendations, except for endodontics and dental cleanings, in which antibiotic use was lower than recommended, and local anesthetic, in which use was higher than recommended (**Table 1A**).

**Table 1B** shows the heart conditions for which IE prophylaxis should and should not be used in dental interventions that carry risk.