

FUNDING

The ENPE study was funded by the *Fundación Eroski* via an agreement with SPRIM and the Spanish Society of Community Nutrition (SENC). The sponsor was not involved in the study design, data collection, analysis or interpretation of results, drafting of the manuscript, or the decision to publish the results.

CONFLICTS OF INTEREST

S. Lázaro-Masedo and N. Ramos-Carrera are linked to SPRIM, who carried out consulting activities for the *Fundación Eroski*.

Javier Aranceta-Bartrina,^{a,b,c,d,*} Carmen Pérez-Rodrigo,^{b,c} Natalia Ramos-Carrera,^e and Sonia Lázaro-Masedo^e

^aMedicina Preventiva y Salud Pública, Facultad de Farmacia, Universidad de Navarra, Pamplona, Navarra, Spain

^bSociedad Española de Nutrición Comunitaria (SENC), Barcelona, Spain

^cFundación FIDEC, Euskal Herriko Unibertsitatea-Universidad del País Vasco, Barurto-Bilbao, Vizcaya, Spain

^dCiberOBN, Instituto de Salud Carlos III, Madrid, Spain

^eSPRIM-España, Madrid, Spain

*Corresponding author:

E-mail addresses: jaranceta@unav.es, javieraranceta@gmail.com (J. Aranceta-Bartrina).

Available online 4 November 2016

REFERENCES

1. Aranceta-Bartrina J, Pérez-Rodrigo C, Alberdi-Aresti G, Ramos-Carrera N, Lázaro-Masedo S. Prevalencia de obesidad general y obesidad abdominal en la población adulta española (25-64 años) 2014-2015: estudio ENPE. *Rev Esp Cardiol*. 2016; 69:579–87.
2. Silva LC, Muñoz A. Debate sobre métodos frecuentistas vs bayesianos. *Gac Sanit*. 2000;14:482–94.
3. Greenland S. Bayesian perspectives for epidemiological research: I. Foundations and basic methods. *Int J Epidemiol*. 2006;35:765–75.
4. Zangiacomi-Martinez E, Alberto-Achcar J. Trends in epidemiology in the 21st century: time to adopt Bayesian methods. *Cad Saude Publica*. 2014;30: 703–14.
5. Seliske L, Norwood TA, McLaughlin JR, Wang S, Palleschi C, Holowaty E. Estimating micro area behavioural risk factor prevalence from large population based surveys: a full Bayesian approach. *BMC Public Health*. 2016;16:478.

SEE RELATED ARTICLE:

<http://dx.doi.org/10.1016/j.rec.2016.08.015>

<http://dx.doi.org/10.1016/j.rec.2016.09.029>

1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

Does Implementation of the Infarction Code Lead to Changes in the Treatment and Prognosis of Patients With Non-ST Elevation Acute Coronary Syndrome?



¿La implantación del código infarto implica cambios en el tratamiento y el pronóstico de los pacientes con síndrome coronario agudo sin elevación del ST?

To the Editor,

We read with interest the article by Cordero et al.,¹ which analyzed the effects of implementing an infarction code program on the treatment and prognosis of patients with acute coronary syndrome.

Firstly, we would like to congratulate the authors for the elegant description of the benefits that such programs have on the management of ST-elevation acute coronary syndrome (STEACS). They achieved outstanding results, with the rate of primary angioplasty in STEACS patients increasing from 51.9% to 94.9% in their hospital.

We would also like to point out that the implementation of such networked care systems for the emergency management of STEACS could have led to NSTEMI patients being pushed into the background, even though these patients form the majority of acute coronary syndrome patients admitted to our hospitals.² We would like to further congratulate the authors for the inclusion of these patients in their study. We agree that, although theoretically the main objective when implementing an infarction code program is to improve STEACS management by facilitating access to primary angioplasty, as this study demonstrates, implementing standardized protocols and care networks can also improve NSTEMI management. However, we would like to make some comments we feel are pertinent.

The benefits of implementing an infarction code for patients with STEACS have already been described; therefore, the most

interesting part of this study is, in our opinion, the analysis of the changes in treatment and prognosis for patients with NSTEMI. From the authors' description, it appears that implementation of the code had no significant effect on the NSTEMI subgroup. In fact, it appears that the reductions in hospital stay and intensive care stay and the increased revascularization rate in the first 48 hours correspond only to patients with STEACS; in patients with NSTEMI there were no differences in the time to revascularization or in revascularization rate.¹ Although these variables were unchanged for the group of all NSTEMI patients, there may have been some differences in high-risk NSTEMI patients, who require early invasive treatment² and therefore should benefit more from the implementation of such a protocol. If such differences were present, this could partly explain the reduction in overall mortality in high-risk acute coronary syndrome patients. It would be interesting to know how many patients with NSTEMI were considered high risk according to current clinical practice guidelines,² and if implementation of the program led to an increase in the percentage of these patients receiving coronary angiography and revascularization in the first 24 hours.

If such differences in high-risk NSTEMI patients were not present, the trend seen toward reduced mortality in NSTEMI patients but not in STEACS patients would be remarkable, considering that there was no increase in the early revascularization rate in NSTEMI patients, and that the patient risk profile was higher in the second study period, according to the GRACE score.¹ It would be interesting to know the authors' opinions regarding changes in medical treatment after implementation of the program and other factors that may have played a role in this finding.

Regarding the reduction in mean stay for STEACS patients, we would also like to ask the authors about one of the more contentious organizational aspects of this type of networked care: organizing patients' return transfer to their original referring hospitals after primary angioplasty. It would be interesting to know more details, such as if these patients were ever admitted to the intensive care unit after primary angioplasty and before

returning to their referring hospital or if they were transferred directly from the catheterization laboratory, and whether or not these details could have had any influence when calculating the hospital stay times and intensive care stay times.

Alfonso Jurado Román,* Ignacio Sánchez Pérez, María T. López Lluva, and Fernando Lozano Ruiz-Poveda

Unidad de Hemodinámica, Hospital General Universitario de Ciudad Real, Ciudad Real, Spain

* Corresponding author:

E-mail address: alfonsojuradoroman@gmail.com (A. Jurado Román).

Available online 27 October 2016

REFERENCES

1. Cordero A, López-Palop R, Carrillo P, Frutos A, Miralles S, Gunturiz C, et al. Cambios en el tratamiento y el pronóstico del síndrome coronario agudo con la implantación del código infarto en un hospital con unidad de hemodinámica. *Rev Esp Cardiol.* 2016;69:754–9.
2. Roffi M, Patrono C, Collet JP, Mueller C, Valgimigli M, Andreotti F, et al. Guía ESC 2015 sobre el tratamiento de los síndromes coronarios agudos en pacientes sin elevación persistente del segmento ST. *Rev Esp Cardiol.* 2015;68:1125.e1–64.

SEE RELATED ARTICLES:

<http://dx.doi.org/10.1016/j.rec.2015.12.021>

<http://dx.doi.org/10.1016/j.rec.2016.09.028>

<http://dx.doi.org/10.1016/j.rec.2016.08.014>

1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

Does Implementation of the Infarction Code Lead to Changes in the Treatment and Prognosis of Patients With Non-ST Elevation Acute Coronary Syndrome? Response



¿La implantación del código infarto implica cambios en el tratamiento y el pronóstico de los pacientes con síndrome coronario agudo sin elevación del ST? Respuesta

To the Editor,

We appreciate the compliments and comments from the team at the Catheterization Unit of the *Hospital de Ciudad Real*. We agree that the results observed in patients with non-ST-elevation acute coronary syndrome (NSTEMI) in our study¹ are difficult to explain, given that the infarction code centers around ST-elevation acute coronary syndrome. Regarding their first question, the percentage of patients with NSTEMI classified as high risk increased from 3.9% to 12.6% ($P = .01$) after implementation of the infarction code. In this high-risk NSTEMI subgroup, the total revascularization rate increased from 62.5% to 87.5% ($P = .04$), but the rate of revascularization in the first 24 hours did not increase (69.6% vs 62.5%; $P = .89$).

In response to their second question, in NSTEMI patients, the biggest change in drug treatment between the 2 periods was the use of the new antiplatelet agents, which increased from 1.4% to 32.6% ($P < .01$): ticagrelor, from 0% to 26.3%; and prasugrel, from 1.4% to 6.3% ($P < .01$ for both). This coincided with the dissemination of the antiplatelet therapy protocol in the infarction code, and is in line with the recommendations in clinical practice guidelines.² The increased rate of revascularization, the increased use of new antiplatelet agents, and the general reorganization of the services involved in the infarction code could explain the benefits observed in NSTEMI patients.

With the exception of 1 privately-managed hospital that continued to use thrombolysis, primary angioplasty became practically the only reperfusion strategy in our area. Unless

clinically contraindicated, all patients were transferred directly from the catheterization lab to the intensive care unit of their referring hospital. The organization of the infarction code in Alicante with 2 out of hours care areas means that the province's resources are concentrated in a rational and coherent way. This, combined with the endeavor of the professionals involved, has allowed primary angioplasty to enter into routine use, with the consequent benefits to the population.

Alberto Cordero,* Pilar Carrillo, Araceli Frutos, and Ramón López-Palop

Departamento de Cardiología, Hospital Universitario de San Juan de Alicante, San Juan de Alicante, Alicante, Spain

* Corresponding author:

E-mail address: acorderofort@gmail.com (A. Cordero).

Available online 28 October 2016

REFERENCES

1. Cordero A, Lopez-Palop R, Carrillo P, Frutos A, Miralles S, Gunturiz C, et al. Cambios en el tratamiento y el pronóstico del síndrome coronario agudo con la implantación del código infarto en un hospital con unidad de hemodinámica. *Rev Esp Cardiol.* 2016;69:754–9.
2. Grupo de Trabajo de la SEC/SECTCV para la guía de la ESC/EACTS 2014 sobre revascularización miocárdica, revisores expertos para la guía de la ESC/EACTS 2014 sobre revascularización miocárdica y Comité de Guías de la SEC. Comentarios a la guía de práctica clínica de la ESC/EACTS 2014 sobre revascularización miocárdica. *Rev Esp Cardiol.* 2015;68:92–7.

SEE RELATED ARTICLE:

<http://dx.doi.org/10.1016/j.rec.2016.08.014>

<http://dx.doi.org/10.1016/j.rec.2016.09.028>

1885-5857/

© 2016 Published by Elsevier España, S.L.U. on behalf of Sociedad Española de Cardiología.