Dynamic Prognostic Stratification in ST–elevation Myocardial Infarction. Response

Estratificación pronóstica dinámica en el infarto agudo de miocardio con elevación del segmento ST. Respuesta

To the Editor,

We would like to thank Dr. Dominguez-Rodriguez and Dr. Abreu-Gonzalez for their comments regarding our article entitled "Update on Ischemic Heart Disease and Critical Care Cardiology" (*"Actualización en cardiopatía isquémica y cuidados críticos cardiológicos"*), which was recently published in *Revista Española de Cardiología*.[1] These authors reflect on the importance of prognostic stratification in patients with ST-segment elevation acute coronary syndrome. In non–ST elevation acute coronary syndrome, risk stratification can be considered an element of the standard management approach, to the extent that it has been included in the European guidelines as a class IA indication. However, in ST-segment elevation acute coronary syndrome, risk stratification has not been as strongly recommended (at least according to the guidelines), although simple classical stratification schemes, such as the Killip-Kimball classification, have been used in myocardial infarction for decades. It could be that the majority of the initial efforts were aimed at treatment strategies and, above all, the creation of primary angiography programs.

We agree with the authors on the importance of risk stratification in this patient population, but we must not overlook the fact that risk scores were developed for group predictions, never for application in individuals. Thus, as good, complete, and predictive the different scores we use may be, they will never be perfect. Therefore, they should always be used basically as tools to guide patient management.[2]

Given the fact that the predictive values of the available scoring systems are often similar,[2] perhaps cardiologists should reach a consensus on the use of one of these tools in their patient population—that which is easiest to employ or offers the most extensive applicability—and promote its utilization in routine practice in their areas. Every group tends to advocate its own scores, emphasizing their advantages and the absence of limitations. In the search for the ideal scoring system, a high predictive value is not the only aspect to be considered; the complexity and clinical applicability must also be assessed. Those that were too complex or had too many variables have come to nothing in the end. The 3 risk scores most widely used in ST-segment elevation acute coronary syndrome are probably the TIMI score,[3] (which involves a simple rating of 8 variables), the CADILLAC score[4] (with 7 variables), and the GRACE score[5] (which includes 8 variables, 3 of which are established according to categories, and requires a risk calculator; nonetheless, it is probably the scoring system most widely used in non–ST elevation acute coronary syndrome and is the tool recommended in the European guidelines).

The Dynamic TIMI risk score[6] mentioned by the authors has gone from using 8 variables to 14, and from scores of 0 to 14 points to scores ranging between 0 and 29 points. This system may prove to be an attractive option, but we consider that, at the present time, it is merely a proposal that will ultimately have to be validated in real-world series or registries. After all, this new score has been applied in the population of a clinical trial (the ExTRACT –TIMI 25 study [Enoxaparin and Thrombolysis Reperfusion for Acute Myocardial Infarction Treatment]) that studied patients with ST-segment elevation acute coronary syndrome undergoing fibrinolysis, with multiple exclusion criteria: cardiogenic shock, contraindication to fibrinolysis, etc. It was also validated in another clinical trial, TRITON-TIMI 38 (Trial to Assess Improvement in Therapeutic Outcomes by Optimizing Platelet Inhibition With Prasugrel), which excluded patients with high risk for bleeding, anemia, thrombocytopenia, etc.

This recently proposed dynamic scoring system will have to wait a few years to demonstrate whether it can survive: *a)* as we mentioned above, the process of validation in the real world of patients with infarction and *b)*, the use in routine cardiology practice of a new tool that, with so many variables, is difficult to implement in our daily work.

Juan Miguel Ruiz-Nodar,[a] Francisco Marín,[b,*] Alessandro Sionis,[c] and Antonio Fernández-Ortiz[d]

[a]*Servicio de Cardiología, Hospital General Universitario de Alicante, Alicante, Spain*
[b]*Servicio de Cardiología, Hospital Clínico Universitario Virgen de la Arrixaca, El Palmar, Murcia, Spain*
[c]*Servicio de Cardiología, Hospital Universitario de la Santa Creu i Sant Pau, Barcelona, Spain*
[d]*Servicio de Cardiología, Hospital Clínico San Carlos, Universidad Complutense de Madrid, Madrid, Spain*

*Corresponding author:
E-mail address: fcomarino@hotmail.com (F. Marín).

Available online 29 May 2014

REFERENCES

1. Marín F, Díaz-Castro O, Ruiz-Nodar JM, de la Villa BG, Sionis A, López J, et al. Actualización en cardiopatía isquémica y cuidados críticos cardiológicos. Rev Esp Cardiol. 2014;67:120–6.
2. Méndez-Eirín E, Flores-Ríos X, García-López F, Pérez-Pérez AJ, Estévez-Loureiro R, Piñón-Esteban P, et al. Comparación del valor predictivo pronóstico de los *scores* TIMI, PAMI, CADILLAC y GRACE en el SCACEST sometido a ICP primario o de rescate. Rev Esp Cardiol. 2012;65:227–33.
3. Morrow DA, Antman EM, Charlesworth A, Cairns R, Murphy SA, de Lemos JA, et al. TIMI risk score for ST-elevation myocardial infarction: A convenient, bedside, clinical score for risk assessment at presentation: An intravenous nPA for treatment of infarcting myocardium early II trial substudy. Circulation. 2000;102:2031–7.
4. Halkin A, Singh M, Nikolsky E, Grines CL, Tcheng JE, Garcia E, et al. Prediction of mortality after primary percutaneous coronary intervention for acute myocardial infarction: the CADILLAC risk score. J Am Coll Cardiol. 2005;45:1397–405.
5. Granger CB, Goldberg RJ, Dabbous O, Pieper KS, Eagle KA, Cannon CP, et al.; Global Registry of Acute Coronary Events Investigators. Predictors of hospital mortality in the global registry of acute coronary events. Arch Intern Med. 2003;163:2345–53.
6. Amin ST, Morrow DA, Braunwald E, Sloan S, Contant C, Murphy S, et al. Dynamic TIMI risk score for STEMI. J Am Heart Assoc. 2013;2:e003269.

SEE RELATED ARTICLE:
http://dx.doi.org/10.1016/j.rec.2014.02.014

http://dx.doi.org/10.1016/j.rec.2014.03.005