

Letters to the Editor

**Dynamic Prognostic Stratification
in ST-elevation Myocardial Infarction****Estratificación pronóstica dinámica en el infarto agudo
de miocardio con elevación del segmento ST****To the Editor,**

We read with great interest the special article published in *Revista Española de Cardiología* by Marín et al.,¹ and would like to make a number of comments on prognostic scoring systems used in ST-segment elevation acute coronary syndrome (STEACS) but first we wish to congratulate the authors.

There is solid evidence, based on randomized trials, that specific treatment strategies, including interventional therapy and the most potent antiplatelet and antithrombotic therapies, are especially effective in patients at highest risk. Thus, as a guide to these treatment strategies, cardiovascular risk should be evaluated on an individual basis.² This type of evaluation is essential to ensure that the patients who will most probably obtain the greatest benefit from the intervention receive appropriate care and that those who will probably not obtain a benefit do not receive unnecessary treatments that could be hazardous. This approach enhances treatment individualization and is also attractive from the perspective of health economics.²

The risk score described in the TIMI (Thrombolysis in Myocardial Infarction) study has become widely used as a tool for prognostic stratification in patients with STEACS.³ The TIMI Risk Score (TRS) provides an assessment scheme that is simple but has a high prognostic value. This score consists of 8 variables and can easily be calculated at the bedside. The development of this risk score was based on retrospective application of multivariate statistical analyses in the populations of 2 trials involving heparins: TIMI-11B and ESSENCE.³ The TRS ranges between 0 and 14 points and includes patient age (65 to 74 years, 2 points; ≥ 75 years, 3 points), diabetes mellitus and/or hypertension and/or previous angina (1 point), systolic blood pressure < 100 mmHg (3 points), heart rate > 100 bpm (2 points), Killip II-IV (2 points), body weight < 67 kg (1 point), anterior acute myocardial infarction or left bundle branch block (1 point), and time to treatment > 4 hours (1 point).³

One of the advances in the prognostic stratification of patients with STEACS reported in 2013 was the creation of a dynamic TRS for the prediction of 1-year mortality.⁴ For this purpose, the authors used the patient database from the ExTRACT -TIMI 25⁵ study to obtain the dynamic risk score in STEACS. They then validated the score by employing the patient database of the TRITON -TIMI 38 trial.⁶ The yield of the new risk model, which includes information on in-hospital events, was evaluated by reclassifying patients into new risk categories.

The dynamic TRS assigns points to 6 clinical events that can take place during a hospital stay, the sum of which ranges from 0 to 15 points.⁴ These events are reinfarction (1 point), stroke (5 points), major bleeding (1 point), congestive heart failure or shock (3 points), arrhythmia (atrial fibrillation, tachycardia, or ventricular fibrillation) (2 points), and renal failure (3 points).

In short, risk stratification of patients with STEACS is a continuous process as, over time, a patient's condition can change, modifying the initial estimate of mortality. In contrast to other risk assessment approaches taken as the gold standard, the dynamic TRS incorporates information on events occurring during hospital stay that are known to affect the risk of mortality associated with STEACS after discharge.

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