



## LETTER TO THE EDITOR

### Reply to the Letter to the Editor entitled "Bleeding risk assessment and comorbidities in elderly patients with acute coronary syndromes"



#### Resposta à Carta ao Editor intitulada «Avaliação do risco hemorrágico e comorbilidades em doentes idosos com síndromes coronárias agudas»

We appreciate the interest of A Ariza-Solé, F Formiga, E Bernal and A Garay in our recent original paper entitled "Non-ST-elevation acute coronary syndromes in octogenarians: applicability of the GRACE and CRUSADE scores",<sup>1</sup> and would like to thank them for their pertinent comments.

Despite the increasing prevalence and higher cardiovascular risk of elderly patients, evidence regarding the management of non-ST-elevation acute coronary syndromes (NSTEMI-ACS) in this age-group is scarce and not representative of real practice, since they are often excluded from clinical trials. Thus, we felt that a national registry, such as the Portuguese Registry on Acute Coronary Syndromes (ProACS),<sup>2</sup> would be a good opportunity to address this knowledge gap. Unfortunately, in the ProACS, major bleeding was defined using the GUSTO criteria,<sup>3</sup> and data on baseline hematocrit and witnessed bleeding were not available.<sup>4</sup> Thus, we were unable to define major bleeding using the same criteria as used for the validation of CRUSADE.<sup>5</sup> We agree that using the GUSTO criteria for defining major bleeding while assessing the accuracy of the CRUSADE score may be a limitation. Nevertheless, a c-statistic of 0.5 truly shows a performance that can be described as mere chance, comparable to flipping a coin. Furthermore, we considered that as CRUSADE is currently recommended by the European Society of Cardiology to assess the risk of bleeding in patients with NSTEMI-ACS,<sup>6,7</sup> it should be able to identify patients who suffered clinically

significant bleeding, even if this is major bleeding as defined by the GUSTO criteria.

Our finding that the CRUSADE score is unsuitable for assessing bleeding risk in octogenarian patients is in line with the study by Ariza-Solé et al.,<sup>8</sup> which included 369 patients aged  $\geq 75$  years and found a significantly worse performance by the CRUSADE score for discrimination of major bleeding in this age-group, compared to younger patients. To summarize, our conclusions overlap those of Ariza-Solé and colleagues,<sup>8</sup> as we also believe that the development of new scores to assess bleeding risk in the elderly should be the aim of future research.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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