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## Does CHA<sub>2</sub>DS<sub>2</sub>-VASC Score Select Patients Who Will Benefit Most From Anticoagulation? Response



*¿La clasificación CHA<sub>2</sub>DS<sub>2</sub>-VASC selecciona a los pacientes que más van a beneficiarse de la anticoagulación? Respuesta*

To the Editor,

We would like to thank Pueo et al for their interest in our article published in *Revista Española de Cardiología*. We agree with the authors that one of the main conclusions of the study is that antithrombotic therapy is not applied correctly in Spain.<sup>1</sup> The simplification of the algorithm for anticoagulation therapy in patients with nonvalvular atrial fibrillation appears to be sound in principle, as it will improve the application of antithrombotic therapy.

However, we think the risk scales and treatment algorithms require comment. First, we should more clearly establish when the risk of stroke in a patient is sufficiently high to warrant anticoagulation therapy. For example, the annual risk of stroke in patients with CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASC scores = 1 is 2.8% and 1.3%, respectively. When both scores are 2, the risk is between 4.0% and 2.2%.<sup>2,3</sup> That is, the risk of stroke in a patient with a CHADS<sub>2</sub> score = 1 is greater than that in a patient with a CHA<sub>2</sub>DS<sub>2</sub>-VASC score = 2.<sup>4,5</sup>

Second, although most of the variables in both scales are continuous, they are presented as dichotomous variables, which, although easy to apply, greatly decreases their predictive value. For example, although the score obtained is the same, it is reasonable to assume that the risk of stroke differs between a 75-year-old patient and a 65-year-old patient. In fact, according to the scheme proposed by the authors, in the absence of any other associated thrombotic risk factors, a patient of 74 years and 11 months will not have an indication for anticoagulation therapy, but 1 month later most definitely will. Similarly, a patient with a persistent systolic blood pressure of 141 mmHg should be considered hypertensive, but not a patient with 139 mmHg, and yet the risk of stroke should be very similar. Again, a patient who has had diabetes for 15 years and is being treated with insulin therapy does not have the same risk of stroke as a patient newly diagnosed with diabetes being treated with 1 drug alone, although in both patients the scores will be the same. The same could be said of the remaining variables.

Finally, it seems too simplistic to only take into account contraindications to anticoagulation. It would be better to take into account the factors that increase the risk of bleeding, quantify this risk, and compare it with the risk of stroke.<sup>6</sup>

Thus, bearing in mind the technological age in which we live, it would be far better to again analyze the databases to which the scales were applied, although this should be done using the actual value of the variable, then assess the risk of stroke and bleeding, and finally use a software application to accurately calculate the risk of stroke and bleeding. This assessment would probably be as fast as using an oversimplified scale, but would certainly be far more accurate, realistic, and useful.

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