CHADS$_2$ Score: Its Predictive Capacity in Clinical Practice

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Dear Editor,

We have read the recently published article entitled “CHADS$_2$ score in predicting cerebrovascular events—a meta-analysis” by Santos et al. They show the results derived from a meta-analysis on the usefulness of CHADS$_2$ score to predict cerebrovascular events. Many strategies have been developed to predict the risk of stroke in patients with atrial fibrillation (AF). The majority of these have shown modest prediction capacity, with poor results in clinical practice.

Only CHADS$_2$ score was tested in at least 10 cohort studies before its definitive validation. Currently, the association between a high CHADS$_2$ score and stroke in patients with AF is well-established. However, the capacity of this score, as demonstrated in this research, to predict cardiovascular events in patients without AF is particularly relevant. The outcomes of this meta-analysis show that in patients with AF the risk of cardiovascular events was significantly higher for CHADS$_2$ score $>2$ points (OR=2.93; CI: 2.81–3.06; $p < 0.00001$). In patients without AF, the results were similar (OR=2.94; CI: 2.87–3.01; $p < 0.00001$).

Moreover, this study showed that patients with AF and CHADS$_2$ score $>2$ points have 3-fold greater risk of stroke and/or death. During years CHADS$_2$ score has been used to indicate anticoagulation therapy in patients with AF. It is currently recommended by several international anticoagulation committees due to its proven efficacy to predict stroke in patients with AF and because it is easy for clinicians to recall and use. This study increases the usefulness of CHADS$_2$ score in clinical settings representing a novel tool to design preventive actions in a great number of patients, but further investigation is necessary.

CHADS$_2$ score is not the only strategy used in clinical practice. It has been replaced in some places by CHA$_2$DS$_2$-VASc score. CHA$_2$DS$_2$-VASc score has been evaluated in at least five studies since its description and with one exception, all investigations demonstrated similar predictive capacity when compared with CHADS$_2$. As CHA$_2$DS$_2$-VASc has been used to attain the same goals as CHADS$_2$ in patients with AF, it would be interesting to know whether CHA$_2$DS$_2$-VASc has the same predictive capacity in clinical practice than CHADS$_2$, as shown by Santos et al.

Undoubtedly, the possibility of having a single score that may be able to determine the use of anticoagulation therapy in patients with AF and predict stroke both in patients with and without AF would be very useful for the medical community.

Keywords
Atrial Fibrillation; Stroke; Vascular Diseases; Thromboembolism; Organ Dysfunction Scores; Risk Grade.

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Manuscript received March 8, 2013; revised manuscript April 15, 2013; accepted April 15, 2013.

DOI: 10.5935/abc.20130154

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Reply

We would like to thank you for reading our article and especially for the recognition of the scientific value of our research. This is actually a topic that has aroused great interest in the international literature in recent years. The role of the CHADS\textsuperscript{2} score for risk stratification in patients with atrial fibrillation (AF) is well documented today, showing great relevance in therapeutic decisions, particularly regarding the use of anticoagulation. One aspect of great importance in our results is demonstrating the usefulness of this score in individuals with sinus rhythm, indicating that it may benefit a wider range of clinical situations. This result should thus provide encouragement for further cohort studies, aiming to consubstantiate the importance of this score in other clinical contexts beyond AF.

We equally agree with what was stated about the CHDA\textsubscript{S\textsubscript{2}}-VASc score, which has also received significant empirical support, with evidence of a predictive role similar to the one seen for the CHADS\textsuperscript{2} score. A current challenge for the scientific community lies indeed in the development of a unified score, which would combine the virtues of the existing scoring systems, necessarily adapted to different clinical scenarios at which they will be aimed.

In this sense, we feel that our results, in addition to supporting the usefulness of the CHADS\textsuperscript{2} score to predict cerebrovascular events in patients with AF and in patients with sinus rhythm, have the advantage of indicating new areas of future research that may lead to the optimization of risk stratification strategies and therapeutic prescription.

Sincerely,
Telmo Pereira