

Stroke Risk Stratification: CHA₂DS₂-VA or CHA₂DS₂-VASc?



To the Editor,

The recently published Australian guidelines for atrial fibrillation (AF) recommend use of a sexless CHA₂DS₂-VASc score, called the CHA₂DS₂-VA score, when guiding decisions on oral anticoagulation (OAC) [1]. Since antithrombotic treatment is a cornerstone in the management of AF patients, we would like to express our concerns regarding this newly proposed strategy.

Partly in line with the Australian guidelines, we recently demonstrated that the indication for OAC treatment could perhaps be based on the CHA₂DS₂-VA score, especially if the initial step is to identify low risk patients who do not require OAC [2]. In contemporary clinical practice, however, there is no one-to-one relationship between indication and actual usage, as OAC continues to be underused for stroke prevention across the whole spectrum of stroke risk as expressed by the CHA₂DS₂-VASc score [3]. Recommending the sexless CHADS-VA score takes away the possibility that patients and treating clinicians can consider the patient's sex when balancing the OAC treatment conundrum.

Indeed, we observed that females had higher stroke risk than males overall and among most CHA₂DS₂-VA categories [2]. Sex differences in stroke risk in AF are well-established [4]. To ignore the added risk of female sex (as with the insufficiently validated CHA₂DS₂-VA score) could underestimate stroke risk in females.

Treatment decisions are often complicated by the fact that many factors that are prognostic for stroke are also risk factors for bleeding once OAC is initiated—so called 'shared' risk factors. The identification of factors that are solely associated with ischaemic stroke risk are, therefore, of particular interest, since such factors more uniformly support the initiation of OAC treatment. Female sex is exactly such a risk component, as is also evident from the absence of female sex in Table 4 in the Australian guidelines presenting bleeding risk predictors. Although we acknowledge the attempt to simplify treatment recommendations, omitting the well-

established value of female sex for stroke risk estimation in patients with atrial fibrillation may be a harmful manoeuvre that could uphold continued underuse of OAC treatment in females with AF.

Conflicts of Interest

Dr. Nielsen has received speaking fees from Boehringer Ingelheim and Bayer; consulting fees from Bayer, Daiichi Sankyo, and BMS/Pfizer; and grant support from BMS/Pfizer. Other authors report no conflicts of interest.

Thure Filskov Overvad, MD, PhD*

Aalborg Thrombosis Research Unit, Department of Clinical Medicine, Faculty of Health, Aalborg University, Aalborg, Denmark

Tatjana S. Potpara, MD, PhD

Cardiology Clinic, Clinical Center of Serbia, School of Medicine, University of Belgrade, Serbia

Peter Brønnum Nielsen, MSc, PhD^{a,b}

^aAalborg Thrombosis Research Unit, Department of Clinical Medicine, Faculty of Health, Aalborg University, Aalborg, Denmark

^bDepartment of Cardiology, Aalborg University Hospital, Aalborg, Denmark

*Corresponding author.

Email: t.overvad@rn.dk (T.F. Overvad).

Received 9 August 2018; online published-ahead-of-print
10 September 2018

References

- [1] NHFA CSANZ Atrial Fibrillation Guideline Working Group. National Heart Foundation of Australia and the Cardiac Society of Australia and

- New Zealand: Australian clinical guidelines for the diagnosis and management of atrial fibrillation 2018. *Heart Lung Circ* 2018;27:1209–66.
- [2] Nielsen PB, Skjøth F, Overvad TF, Larsen TB, Lip GYH. Female sex is a risk modifier rather than a risk factor for stroke in atrial fibrillation: should we use a CHA₂DS₂-VA score rather than CHA₂DS₂-VASc? *Circulation* 2018;137:832–40.
- [3] Hsu JC, Maddox TM, Kennedy KF, Katz DF, Marzec LN, Lubitz SA, et al. Oral anticoagulant therapy prescription in patients with atrial fibrillation across the spectrum of stroke risk: insights from the NCDR PINNACLE registry. *JAMA Cardiol* 2016;1:55–62.
- [4] Linde C, Bongiorni MG, Birgersdotter-Green U, Curtis AB, Deisenhofer I, Furokawa T, et al. Sex differences in cardiac arrhythmia: a consensus document of the European Heart Rhythm Association, endorsed by the Heart Rhythm Society and Asia Pacific Heart Rhythm Society. *Europace* 2018. <http://dx.doi.org/10.1093/europace/euy067> [Epub ahead of print].