

# High CHA<sub>2</sub>DS<sub>2</sub>-VASc score without atrial fibrillation: ‘NAO yes, NAO no’

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The CHA<sub>2</sub>DS<sub>2</sub>-VASc score describes the thromboembolic risk as recommended by the International Guidelines<sup>1</sup> and is used to establish whether patients with atrial fibrillation (AF) require long-term oral anticoagulant to decrease the risk of stroke.

The CHA<sub>2</sub>DS<sub>2</sub>-VASc score is an evolution of the CHA<sub>2</sub>DS<sub>2</sub>, which was originally used and validated in several trials, and substantially increase the appraisal of the thromboembolic risk to patients with previous coronary events, or peripheral vascular disease and female gender.

The CHADS score is based on five parameters:

- Heart failure or left ventricular dysfunction: (C) 1
- Arterial hypertension: (H) 1
- Age over 75 years: (A) 2
- Diabetes mellitus: (D) 1
- History of cerebrovascular events (stroke or transient ischaemic attack): (S) 2

The CHA<sub>2</sub>DS<sub>2</sub>-VASc introduces new variables very useful for the clinical cardiologist such as previous myocardial infarction or chronic stable coronary disease in all its clinical manifestation, and peripheral vascular disease, including aortic atherosclerosis, lower extremities arterial disease, and carotid artery disease. In patients with AF and CHA<sub>2</sub>DS<sub>2</sub>-VASc = 0, the risk is extremely low and certainly, the patient would not benefit from oral anticoagulant therapy. On the other hand, a very high CHA<sub>2</sub>DS<sub>2</sub>-VASc characterizes patients with such a significant thromboembolic risk that oral anticoagulants are recommended by the guidelines independently from the presence of permanent AF or the ‘burden’ in the case of paroxysmal AF. The availability of the new oral anticoagulant (NAO), with a haemorrhagic risk much lower than warfarin and more user-friendly, stimulated new treatment perspectives in

clinical scenarios previously not considered, such as patients with a recent acute coronary syndrome or peripheral vascular disease, without AF.

Patients with high CHA<sub>2</sub>DS<sub>2</sub>-VASc carry also a high cardiovascular risk, particularly patients with previous myocardial infarction, multivessel coronary artery disease (treated with revascularization or not), peripheral arterial disease (PAD), with diabetes or decreased renal function (glomerular filtration rate <60 mL/min), or older than 65 years.<sup>2,3</sup>

A significant proportion of the adverse cardiovascular events reported are ischaemic strokes. Several clinical observation and data reported in the Literature point out that the cerebral ischaemic events have no time relation with AF, calling attention to the fact that the risk of stroke is largely patient-related rather than arrhythmia-related.

For patients with high CHA<sub>2</sub>DS<sub>2</sub>-VASc and no AF, traditional anticoagulant therapy is not recommended, and has not been considered because of safety issues. The availability of NAO, more practical and safe, raised the opportunity for their application in this clinical setting.

Rivaroxaban, a direct inhibitor of factor Xa, has been recently tested in 27 395 patients with stable coronary artery disease in the COMPASS (Cardiovascular Outcomes for People Using Anticoagulation Strategies) study.<sup>3</sup> The clear-cut information from the COMPASS study is that the association aspirin low-dose Rivaroxaban is more effective in patients with coronary artery disease and/or PAD with high cardiovascular risk; when these patients are stratified according to the CHA<sub>2</sub>DS<sub>2</sub>-VASc score, the score is high (>3).

The CHA<sub>2</sub>DS<sub>2</sub>-VASc score is a simple and reliable tool for cardiovascular risk stratification and to select patients who will benefit the most from intensive treatment aiming at

curbing the progression and the evolution of atherothrombotic disease. Present evidences *vis-à-vis* the significant increase in bleeding episodes preclude a recommendation for NAO in patients with elevated CHA<sub>2</sub>DS<sub>2</sub>-VASc score and no documented AF.

**Conflict of interest:** none declared.

## References

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