**Oral Anticoagulation in patients with non-valvular atrial fibrillation and a CHA2DS2-VASc score of 1**

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**Background**

Current ESC guidelines recommend the initiation of oral anticoagulation (OAC; preferably non-Vitamin K antagonist oral anticoagulants [NOAC] or Vitamin K antagonists [VKA]) in AF patients with a CHA2DS2-VASc score ≥ 2 for lowering the individual stroke risk, while an OAC approach in individuals with a CHA2DS2-VASc score of 0 is not recommended. (1) However, OAC in patients presenting with a CHA2DS2-VASc of 1 (CHA2DS2-VASc of 2 in women) remains a challenging approach in clinical practice and physicians need to carefully balance the individual benefit of reducing thromboembolic risk with OAC against the potential harm due to an increase in bleeding risk in this patient population.

Within the current opinion statement of the ESC working group of cardiovascular pharmacotherapy and the ESC council on stroke the authors summarized currently available evidence in this field. (2) Most importantly, an easily applicable approach for a personalized refinement of the individual thromboembolic risk in patients with AF and a CHA2DS2-VASc score of 1 that guide clinicals through the question whether to anticoagulated or not was provided.

**The focus on doing no harm**

The assessment of patients’ individual risk for major bleedings is a key prerequisite for initiation of OAC. The HAS-BLED score mirrors a widely validated and accepted tool for this purpose. Based on the individual bleeding risk of 0.59% to 1.51% per year in HAS-BLED score of 1 and an annual thromboembolic risk of 0.6% to 1.3% in CHA2DS2-VASc of 1, physicians are not able to draw a definite conclusion concerning the net benefit of OAC in respective patients. Therefore, a general recommendation of OAC therapy in these individuals is not justified and patients that benefit form OAC need to be identified using a personalized approach. In contrast, in patients with a HAS-BLED score of 2 (or even greater) an OAC should not be initiated in intermediate thromboembolic risk patients based on an annual bleeding rates of 1.88% to 3.20% per year. (3-6)

**Personalised risk stratification in CHA2DS2-Vasc of 1**

Considering the predictive potential for thromboembolic events in characteristics used for the calculation of the CHA2DS2-VASc score, ***age*** (>65 years) and ***diabetes mellitus type II*** may be the most important isolated risk factors. (7) Moreover, the authors conclude that the ***burden of atrial arrythmia*** – such as atrial fibrillation (not atrial flutter) and permanence/persistence (not paroxysmal) of the arrythmia need to be taken into account. (8-11) Further patient characteristics that proved to be associated with an increased thromboembolic risk were outlined as ***obesity*** (body mass index ≥30) and ***impaired kidney function*** – objectified via proteinuria (>150mg/24h or equivalent) or estimated glomerular filtration rate of <45ml/h. (X) Additionally, imaging values, such as enlarged ***left atrial volume*** (≥73mL) or ***diameter*** (≥4.7cm) or ***left atrial appendage emptying velocity*** (<20cm/s) seems reasonable and easily assessable imaging marker for risk stratification. (12-14) Of utmost importance, routinely available ***biomarkers***such as cardiac troponin (high sensitivity troponin T or I) and Nt-proBNP (1400ng/l) may provide additional prognostic information to enhance risk estimation and decision making for OAC particularly in intermediate-risk individuals. (1)

Of note, despite an individualized weighing of risk and additional prognostic values, the ***patients’ preferences*** are crucial for a decision on OAC in order to ensure adherence which strongly influences outcome.

**Impact of the manuscript**

The ESC working group of cardiovascular pharmacotherapy and the ESC council on stroke concludes that decisions should be based on the individual balance between thromboembolic and bleeding risk. The major therapeutic preference should be on doing no harm rather than avoiding stroke. In this regard, several values and strategies for risk stratification were provided for clinicians to determine the individual thromboembolic risk in patients presenting with a CHA2DS2-VASc Score of 1. If the decision of OAC initiation in AF patients presenting with a CHA2DS2-VASc Score of 1 has been made, NOACs with a superior net-clinical benefit should be preferred over VKAs. There is no evidence that patients with AF presenting with a CHA2DS2-VASc score of 1 benefit from ASA therapy – therefore, ASA for stroke prevention should not be considered in this intermediate-risk patient population. Of utmost importance an easily applicable tool – including patient characteristics that favor OAC and a decision tree for the initiation of OAC – is now available to guide clinicians through the question whether to anticoagulated or not and to offer AF patients with a CHA2DS2-VASc Score of 1 the currently most possible benefit. (see Figure 1)

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Automatisch generierte Beschreibung

**Figure 1: Decision tree for OAC in patients with AF and a CHA2DS2-VASc score of 1 and values for individual risk stratification.** Values that favor oral anticoagulation and allow individual thromboembolic risk stratification in AF patients with a CHA2DS2-Vasc of 1. eGFR = estimated Glomerular Filtration Rate; LA = Left Atrium; LAA = Left Atrial Appendage; Nt-proBNP = N-terminal pro-B-type natriuretic peptide; NOAC = non-Vitamin K antagonist oral anticoagulants; OAC = Oral Anticoagulation; VKA = Vitamin K Antagonist.