

ACTUALITIES IN THROMBOEMBOLIC RISK MANAGEMENT IN THE PATIENTS WITH ATRIAL FIBRILLATION

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Abstract: The therapeutic management of the patients with atrial fibrillation should take into account the risk for thromboembolism, resulted in an incidence of strokes 5 times higher than in the general population. The stratification of this risk is validated by two scoring systems (CHADS2, CHA2DS2-VASc) which provide the ideal therapeutic option for each patient. Some controversies about the approach of thromboembolic risk in the latest Guide for the management of the patients with atrial fibrillation seem to have been resolved by the recent studies.

Cuvinte cheie: fibrilație atrială, tromboembolism

Rezumat: Managementul terapeutic al pacienților cu fibrilație atrială trebuie să țină cont de riscul tromboembolic aferent, concretizat într-o incidență a stroke-ului de 5 ori mai mare decât la populația generală. Stratificarea acestui risc este validată prin 2 sisteme de scorificare (CHADS2, CHA2DS2-VASc) care oferă opțiunea terapeutică ideală pentru fiecare pacient în parte. Unele controverse legate de abordarea riscului tromboembolic din ultimul Ghid pentru managementul pacienților cu fibrilație atrială par să fi fost rezolvate de studiile recente.

Considering the results of recently completed studies, the American College of Cardiology (ACC), the American Heart Association (AHA) and the European Society of Cardiology (ESC) considered important enough to update the latest guide for the management of the patients with atrial fibrillation, published in 2006.(1) This article aims at focusing on issues related to the prevention of thromboembolic injuries. It is known that the presence of atrial fibrillation enhances the risk of stroke 5 times. Although schemes to stratify the risk of stroke allow the identification of patients benefiting from anticoagulation, the threshold for the use of anticoagulants is still controversial. Divergences occur especially with respect to the patients with medium risk for stroke development (between 3% and 5% per year). Some authors argue vehemently the use of anticoagulation in this category of patients too, not just in those at high risk of stroke, while others prefer to adopt a more nuanced position that takes into account the risks involved by such therapy, bleeding being by far the most important complication. It is well known that a history of stroke or transient ischemic attack is associated with the highest risk for developing stroke. Other clinical circumstances such as heart failure, hypertension, advanced age and diabetes mellitus involve additional risks in this direction. Various schemes have been proposed to assess the risk of stroke; among them, the best known scoring system being the CHADS2.(2) (table no. 1)

Table no. 1. CHADS2 scoring system

Type	Condition	Points
C	Congestive heart failure	1
H	Hypertension	1
A	Age \geq 75	1
D	Diabetes mellitus	1
S2	Prior Stroke or Transient Ischemic Attack	2

This system should be used as a straightforward, easy to remember method in order to determine the stroke risk the

patient is exposed to. CHADS2 \geq 2 requires the administration of oral anticoagulants, therapeutic attitude translated into practice in a lower incidence of thromboembolic risk. The therapeutic strategies based on this scoring system are shown in table no. 2.

Table no. 2. CHADS2 thromboembolic risk and related antithrombotic strategies

Score	Risk	Anticoagulant therapy	Comments
0	Mild	None or Aspirin	Aspirin daily
1	Moderate	Aspirin or Warfarin	Aspirin daily or INR 2-3
\geq 2	Moderate or high	Warfarin	INR 2-3

If the management of the patients with atrial fibrillation and with mild and high thromboembolic risk is well defined, recommending the use of aspirin and, respectively, the oral anticoagulants in the absence of contraindications, the situation of the patients at intermediate risk involves some controversy in the latest guide for the management of the patients with atrial fibrillation. Trying to provide a solution in this respect, several authors (4) have recently proposed the CHA2DS2-VASc scoring system (table no. 3), which completes CHADS2, including a number of “non-major” risk factors: age between 65 and 74, female gender and associated vascular disease. This new thromboembolic risk assessment system was adopted by the ESC in the latest guide for the management of the patients with atrial fibrillation, with no intention to replace it, but to improve it.(5)

Thus, if a CHADS2 score \geq 2 recommends the use of oral anticoagulation (warfarin or one of the new oral anticoagulant agents, such as dabigatran – recently approved by FDA), a score of 0-1 requires the consideration of additional risk factors quantified by the CHA2DS2-VASc system. The

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presence of at least two factors requires the oral anticoagulant therapy, while identifying a single risk factor allows to assess the most appropriate therapeutic option between warfarin and aspirin (anticoagulation is, however, preferred), considering the side effects of medication and the clinical and biological features of the patient. A CHA2DS2-VASc score=0 corresponds to a really low risk (6) and the recommendation is to refrain from any antithrombotic therapy or aspirin, without any of these options to prevail.(7)

Table no. 3. CHADS2-VASc scoring system

Type	Condition	Points
C	Congestive heart failure (or left ventricular systolic dysfunction)	1
H	Hypertension	1
A2	Age ≥ 75 years old	2
D	Diabetes mellitus	1
S2	Prior Stroke or Transient ischemic attack or Thromboembolism	2
V	Vascular disease (peripheral artery disease, myocardial infarction, aortic plaque)	1
A	Age 65-74 years old	1
Sc	Sex category (female gender)	1

Two important studies to evaluate the combination therapy between Clopidogrel and Aspirin to prevent vascular events in the patients with atrial fibrillation were recently completed. The first one, ACTIVE-W (Atrial Fibrillation Clopidogrel Trial with Irbesartan for Prevention of Vascular Events) compared the aforementioned combination with warfarin, used as preventive treatment in the patients with at least 2 stroke risk factors.(8) The results show the superiority of warfarin in preventing vascular events (stroke, systemic embolic stroke, myocardial infarction, vascular death). Moreover, the incidence of bleeding complications was similar in the two groups, an additional argument in favour of the anticoagulant therapy.

The second major study, ACTIVE-A (Effect of Clopidogrel Added to Aspirin in Patients with Atrial Fibrillation) has been proposed to assess the association between Clopidogrel and aspirin in preventing vascular events in the patients who have contraindication to anticoagulant therapy.(9) The trial demonstrated a decrease of the vascular risk (particularly stroke) in the patients who have used this combination, along with an increased incidence of major bleeding complications.

The results of another study (10) were published two years ago, a study which proposed the assessment of triple antithrombotic therapy (clopidogrel, aspirin and warfarin) in the patients with atrial fibrillation who have other morbid circumstances, such as mechanical valve prosthesis or coronary stent. This drug combination involves a significantly increased incidence of major bleeding complications with fatal potential.

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