Antithrombotic Management of Atrial Fibrillation in the Elderly

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KEYWORDS

• Anticoagulation • Atrial fibrillation • Elderly • Bleeding • Warfarin
• Antiplatelet agents • Risk stratification

KEY POINTS

- Older age remains one of the strongest risk factors for stroke in patients with atrial fibrillation (AF).
- Validated stroke risk stratification schemes, such as the $CHADS_2$ and CHA_2DS_2-VASc, should be used to estimate stroke risk and guide anticoagulation decisions in older adults with AF.
- Bleeding risk scores, such as HAS-BLED, should not be used to exclude patients from the use of oral anticoagulation (OAC) but rather to identify modifiable bleeding risk factors that can be managed to reduce a patient's risk of bleeding from anticoagulation.
- The significant decrease in intracranial bleeding risk with non–vitamin K oral anticoagulants (NOACs), combined with their fixed dosing schedules and fewer drug-drug interactions, provides potential advantages over vitamin K antagonists (VKAs) in older patients with AF.
- Antiplatelet agents should be reserved primarily for patients who are deemed unsuitable for, or refuse, OACs.

INTRODUCTION

OAC is the most effective way to prevent thromboembolic disease in patients with AF. For decades, aspirin and VKAs were the primary agents used to prevent thromboembolic disease in patients with AF. The approval of NOACs has now expanded the range

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of therapeutic agents available to providers. Nevertheless, the safe and effective use of NOACs in older adults remains less well established and understood, despite the marked increase in the prevalence of both AF and AF-associated thromboembolism (TE) in this population.[1–4] This review discusses strategies to assess bleeding and thrombosis risk in older adults with AF and summarizes pharmacologic options for the prevention of stroke, transient ischemic attack (TIA), and systemic embolism. The authors highlight practical considerations to the selection and use of these agents in older adults to aid clinical decision making.

MANAGEMENT GOALS

The aim of OAC is to prevent the devastating consequences of stroke in older adults with AF while minimizing complications from treatment. Older patients are at increased risk of bleeding complications, adding to the complexity of their treatment. The decision to use antithrombotic therapy in an individual patient with AF requires an estimate of the baseline stroke risk without treatment and the risk of bleeding (especially intracranial hemorrhage [ICH]) with treatment, followed by determination of the patient's values and preferences through shared decision making. Periodic reevaluation of the patient's stroke and bleeding risk is essential.[1] However, there are still important limitations to accomplishing these goals.

Stroke Risk Assessment

Stroke risk in individual patients with AF varies from less than 1% per year to more than 18% per year and depends on the presence, number, and relative predictive strength of different clinical risk factors for stroke and not on whether AF is paroxysmal, persistent, or permanent. The strongest risk factors are the presence of mechanical heart valves or mitral stenosis, and all patients with these require OAC.[1] For patients with nonvalvular atrial fibrillation (NVAF), the 4 strongest stroke predictors are prior stroke and/or TIA (relative risk [RR] = 2.5), hypertension (RR = 2.0), diabetes mellitus (RR = 1.7), and age (RR = 1.5 per decade).[2]

These clinical risk factors have been variably combined into different stroke risk stratification tools, including the $CHADS_2$ and CHA_2DS_2-VASc (**Tables 1** and **2**).[5,6] The CHA_2DS_2-VASc adds female sex, vascular disease, and age 65 to 74 years to the risk factors included in the $CHADS_2$ score. A systematic review of validation studies concluded that these 2 tools have the best, albeit modest, discrimination ability for stroke (c-statistics of 0.71 and 0.70, respectively).[7] Current clinical practice guidelines recommend the use of CHA_2DS_2-VASc over $CHADS_2$ because of several advantages.[1,8–10] Older age ($\geq$75 years) is the single most important risk factor for stroke (4.0%–5.0% per year; hazard ratio, 3.0–3.5), greater than hypertension, diabetes, or heart failure, thereby warranting extra weight (2 points) as a risk factor.[11,12] Although the 2 scores provide similar identification of patients with AF at high stroke risk, use of CHA_2DS_2-VASc improves stratification of patients considered low (score = 0) and intermediate (score = 1) risk by $CHADS_2$.[11,13] CHA_2DS_2-VASc identifies up to 22% of patients with AF with a $CHADS_2$ score of 0 whose annual event rate may not be low (0.84% for CHA_2DS_2-VASc score = 0 to 3.2% for CHA_2DS_2-VASc score = 3) and may benefit from OAC.[11,13] Thus, CHA_2DS_2-VASc better identifies the truly low risk cohort whose annual event rate is less than 1% and in whom anticoagulation can be safely deferred.[11,14,15]

Current guidelines for antithrombotic therapy in nonvalvular AF vary in their recommendations (**Table 3**).[1,8–10] For a CHA_2DS_2-VASc score of 0, no antithrombotic therapy (including no aspirin) is recommended. For a score of 2 or more, all recommend