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Frailty and cognitive impairment are not reasons to withhold anticoagulation in people with atrial fibrillation but screening could guide management

Oral anticoagulants (OACs) reduce the risk of stroke for people with atrial fibrillation (AF), and OACs are recommended in evidence-based guidelines for most people with AF.[1] The net clinical benefit of OACs compared with no treatment or aspirin is clear for most people with AF, apart from those at lowest stroke risk.[2] The common risk factors for incident AF are also risk factors for stroke and bleeding in AF.[3]

There are well-validated risk scores to assess stroke and bleeding risks in AF, and an independent Patient-Centered Outcomes Research Institute (PCORI) systematic review and evidence appraisal found that of commonly used AF risk scores, the $CHADS_2$, CHA_2DS_2_VASc and HAS-BLED scores were the best validated scores for use in clinical practice.[4] However, stroke risk in people with AF is increased by aging and incident risk factors, so should be regularly repeated, given that risk is dynamic and not a static "one-off" assessment.[5] Similarly, bleeding risk is dynamic and should be determined for all people with AF before (and after) commencing OAC treatment.[6] Indeed, regular reassessment using the HAS-BLED score is associated with mitigation of modifiable bleeding risk factors, reduced bleeding risk, and an increase in OAC use.[7] Importantly, a high bleeding risk score should not be used as the sole reason to not initiate anticoagulation. Instead, people should be appropriately treated with OAC, monitored and also reassessed to determine any changes in risks over time. There is no exception in current guidelines for initiating anticoagulation for AF in people with frailty or cognitive impairment.

The risk of stroke without treatment is often of greater consequence than bleeding risk by prescribing OACs for people with AF, including older people, people with cognitive impairment, and/or those with a history of falls or frailty. Thus, people with AF, frailty, and/or cognitive impairment should be appropriately assessed for stroke and bleeding risk and treated and monitored accordingly. Consideration should be given as to whether a caregiver is available to assist with anticoagulant adherence for people with cognitive impairment and dementia.[1] However, there are issues in the current evidence base as people with cognitive impairment or dementia are often excluded from research studies and clinical trials.[8]

In this issue of the *Journal of the American Geriatrics Society*, Mailhot and colleagues determine the independent and concurrent prevalence of cognitive impairment and frailty in a cohort of over 1200 people aged 65 and older with nonvalvular AF in the United States.[9] All participants had a CHA_2DS_2-VASc score ≥2 and had no contraindications to the use of OACs. The Fried Frailty Scale was used to assess frailty, and the Montreal Cognitive Assessment (MoCA) was used to assess cognitive impairment, with a defined cutpoint of 23 to categorize cognitive impairment with the MoCA. The Anti-Clot Treatment Scale (ACTS) was used to assess patient satisfaction of OACs. The authors reported that almost one half of the study participants had frailty, cognitive impairment, or both; approximately 5% had frailty only, 34% had cognitive impairment only, and 9% had both frailty and cognitive impairment. The majority of participants (85%) were receiving OACs, and frailty or cognitive impairment did not associate with OAC prescribing. This finding indicates that prescribers for the participants of this study were mostly following current guidelines and not withholding oral anticoagulation due to frailty status or cognitive impairment. For the remaining 15%, the reasons for why OACs are not prescribed or whether the participants have ever received OACs are not reported. The analysis of ACTS scores in the study showed people with cognitive impairment, but not frailty or both cognitive impairment and frailty, reported low perceived benefit of OACs compared with people with no impairment, but treatment burden did not significantly differ between the groups. This was partially explained by adjusting for other factors known to associate with treatment adherence such as social support and levels of education but remained statistically significant after adjustments (odds ratio for low benefit of OACs for people with cognitive impairment and frailty vs. people with no impairment: 1.87; 95% confidence intervals: 1.08, 3.27). Consideration

This editorial comments on the article by Mailhot et al.

of patient satisfaction is important because lower treatment satisfaction may impact adherence and ultimately increase stroke risk for the patients.[10]

The study by Mailhot et al. provides insights into associations between cognitive impairment, frailty status, and prescribing and perceived benefit or OACs.[9] The study does not indicate the length of time participants had been prescribed OACs or stratify results of perceived treatment burden and benefit by type of OAC prescribed, such as a comparison of vitamin-K antagonists (VKAs) versus non-VKA OACs (NOACs). Previous studies have shown differences in satisfaction comparing AF patients prescribed NOACs compared to VKAs but have not further considered how cognitive impairment or frailty may impact findings.[10-12]

The Systematic Assessment of Geriatric Elements in Atrial Fibrillation (SAGE-AF) cohort, which was used in the study by Mailhot and colleagues included a relatively high proportion of people with cognitive impairment, but one of the main limitations of the study, as appropriately noted by the authors, is the exclusion of people with diagnosed dementia.[9] A previous meta-analysis of 21 studies has shown people with dementia had 52% lower odds of receiving OACs than people without dementia.[13] Although this may be a difficult area to study in this population, the exclusion of people with dementia is repeatedly seen across studies of the older population without adequate justification. The reasons for exclusion of people with dementia from studies are infrequently reported or noted as a limitation.[13] Similarly, a study that examined treatment satisfaction for people with AF receiving OACs excluded people with a cognitive disorder for reasons of feasibility (ability to respond orally to the questionnaires).[11] Treatment adherence and satisfaction for people with AF and dementia remain unknown.

Depression, older age, lower education, race/ethnicities other than non-Hispanic white, and higher bleeding and stroke risk scores were associated with frailty and cognitive impairment for people with AF.[9] However, the cross-sectional analysis is limited in the conclusions, which can be drawn without repeated measures. Determining people with AF at high risk of frailty and cognitive impairment could be useful for targeted screening. Screening for frailty and cognitive impairment for people with AF could assist clinicians to make well-informed decisions about treatment and frequency of monitoring and reassessment. To provide optimal care for people with AF, knowing the presence of cognitive impairment could be important to effectively communicate with patients for patient-centered decision-making and to identify the need for family members or other caregivers to be present to help with treatment adherence and discussion of the risks and benefits of treatment. For people with AF and frailty, appropriate supportive strategies should be considered such as multidisciplinary team assessment, home and community-based rehabilitation, and recognition of deterioration.[14]

Determining frailty and cognitive status should not be used as reasons to withhold anticoagulation. It is critical

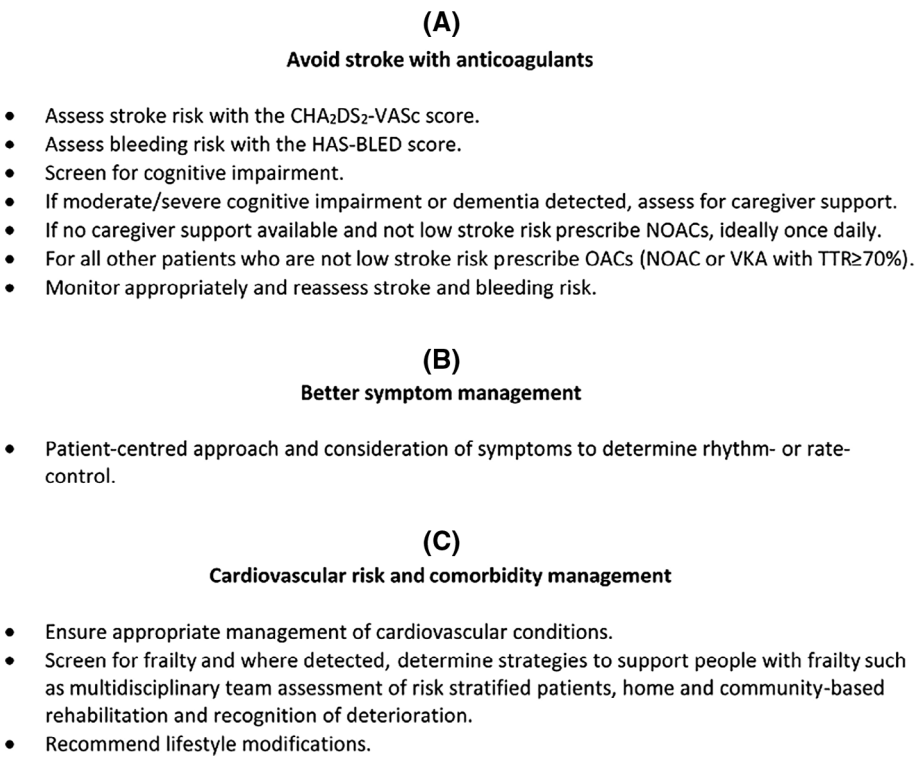

FIGURE 1 Modified atrial fibrillation better care (ABC) pathway to include screening for frailty and cognitive impairment. Low stroke risk defined as CHA_2DS_2-VASc score of 0 in men or 1 in women, with event rates of <1% per year. OAC, oral anticoagulant; VKA, vitamin-K antagonist; NOAC, non-VKA antagonist; TTR, time in therapeutic range

the patients and/or their family members or caregivers where appropriate are fully informed of the benefits of taking the OACs to improve long-term treatment adherence and reduce risk of incident stroke. There is no evidence that people with AF and dementia have a markedly higher risk of intracerebral haemorrhage in the presence of anticoagulation, but evidence from randomized controlled trials is lacking and may not be feasible. Therefore, anticoagulation should be offered, but adherence may need to be assured by a family member or other appropriate caregiver. NOACs may be preferable to adjusted dose VKA treatment as they may be easier to manage, as they can be administered in fixed doses. However, trial evidence comparing NOACs to VKAs is not available specifically for people with cognitive impairment and dementia. Screening for cognitive impairment should be considered, perhaps in addition to the calculation of the SAMe-TT_2R_2 score to predict which people on oral anticoagulation with VKAs will reach an adequate time in therapeutic range to guide whether NOACs or VKAs are more appropriate.[15,16]

For all people with AF, the Atrial Fibrillation Better Care (ABC) pathway can be applied as a simple approach to holistic AF care, including those with cognitive impairment or dementia. The ABC pathway is an integrated management pathway for people with AF comprising "A" Avoid stroke with Anticoagulants; "B" Better symptom management with appropriate rate or rhythm control; and "C" Cardiovascular and comorbidity risk management, including appropriate lifestyle recommendations.[17] The ABC pathway has been shown to associate with fewer major adverse events in critically complex patients with AF including those with multiple comorbidities, use of polypharmacy, and prior hospitalization.[18] Figure 1 suggests how screening for frailty and cognitive impairment could be integrated within the ABC pathway to streamline the patient care pathway.

To make the future research findings easier to adopt in clinical practice globally, the use of the Rockwood Clinical Frailty Scale would be a useful addition in categorizing frailty status as well as the degree of frailty.[19] Although treatment satisfaction is important, it is also critical to determine what matters most to older people especially those with frailty, as balancing the benefits of treatment and overall quality of life including polypharmacy-related complications have a bearing on adherence to recommended treatment.[20] Using activities of daily living for older people is a much more useful and helpful outcome measure that should be incorporated in future studies. Understanding how social and health inequalities and being in a long-term care setting impacts these findings in future studies would also add knowledge and improve the care provided to these subpopulations as their understanding and challenges are unique.

In conclusion, frailty and cognitive impairment screening could be considered alongside the ABC pathway to help guide optimal care and management of AF. Further research may be needed to determine the feasibility of integration of such screening for people with AF and which measures are most appropriate as well as the points raised above.

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AUTHOR CONTRIBUTIONS

Stephanie L. Harrison drafted the manuscript, and Asangaedem Akpan and Gregory Y.H. Lip critically revised the manuscript.

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