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Atrial fibrillation and oral anticoagulation in older adults: an update

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Key points

• Oral anticoagulation (OAC) prescribing rates remain low despite evidence showing significant benefits of OAC for older adults with AF in terms of reducing the risk of stroke and mortality.

• There is limited evidence regarding the use of OAC in those with frailty, multimorbidity, high falls risk or in care homes.

• The draft NICE guidelines (2020) for AF recommend direct oral anticoagulants (DOACs), guided by risk stratification using CHA2DS2-VASc and ORBIT bleeding risk scores.

• The updated draft NICE guidelines (2020) state that OAC should not be withheld “solely because of a person’s age or their risk of falls”.

• Older adults with frailty, multimorbidity or in care homes are under-represented in clinical trials and require a holistic person-centred approach to guide shared decision-making on OAC use.

The prevalence of atrial fibrillation (AF)[1] and the risk of AF-associated embolic events, of which stroke is the most common[2], increase with age. Decision making on the use of Oral Anticoagulation (OAC) for AF requires clinicians and patients to make complex risk:benefit assessments. However, there is limited evidence on the use of OAC and associated outcomes for older adults with frailty, multimorbidity or living in care homes.
In this issue, Ritchie and colleagues[3] (Ritchie et al reference to be added by A&A) aimed to synthesise evidence on AF prevalence, outcomes, and factors associated with OAC prescribing in people living in long term care facilities. They included 29 studies with AF prevalence estimates ranging from 7-38%, which is comparable to previous estimations in older populations. The range reflects the heterogeneity of both the studies and the care home population. Only two observational studies estimated outcomes stratified by OAC prescribing, reporting reduced stroke incidence with OAC, without a significant increase in major bleeds. However, this included one study with warfarin and one with warfarin and DOACs. These studies were based on OAC prescriptions, and therefore subject to potential prescribing decision bias and unmeasured confounding factors.

Also in this issue, Wilkinson and colleagues [4](A+A to add Wilkinson reference) investigated AF, OAC prescribing and incident outcomes in a cohort of 536,955 patients aged over 65 (median age 73.8 years) from primary care electronic health records in England, stratified by frailty status. AF prevalence was estimated at 11.4%, increasing across frailty strata from 2.9% in non-frail patients to 31.5% with severe frailty. These differences could partially explain the wide prevalence estimates reported by Ritchie et al.[3]. Increased frailty was associated with higher CHA2DS2-Vasc score (mean in non-frail 2.2 (SD 0.98); severe 5.0 (SD 1.4)) and increased OAC prescription (OAC prescription severe frailty compared to non-frail OR 2.51; 95%CI 1.72 to 1.96)[4]. This challenges the assumption that decisions not to treat with OAC are based on frailty or perceived lack of benefit due to limited prognosis[1], although there was no clinical corroboration of frailty status. Increased frailty is associated with increased healthcare contact[5], which may increase prescribing rates. This study reports an excess mortality of 59% associated with AF versus no AF, across frailty strata. After competing risks analysis, moderate/severe frailty was associated with excess stroke risk in women only. They did not compare outcomes in those with AF on OAC versus no OAC.

The National Institute for Health and Care Excellence (NICE) have recently released a draft of revised AF guidelines (2020) [6]. They recommend that OAC therapy decisions are guided by risk
stratification using CHA2DS2-VASc and ORBIT scores. Direct oral anticoagulants (DOACs) apixaban, dabigatran or rivaroxaban are recommended as the preferred treatment over vitamin K antagonists (eg. warfarin), with a therapeutic switch to be discussed in stable patients. The complexities of warfarin monitoring during the COVID-19 pandemic has expedited preferential transfer to DOACs, supported by NHS guidance[7].

OAC therapy has been shown to significantly reduce stroke and mortality risk in trials of AF in older age groups[8]. One meta-analysis of 28,044 participants (mean age 71 years) found reductions of 64% for stroke (95%CI 49 to 74%) and 22% for mortality (95%CI 6 to 35%)[9]. However, these potential benefits must be weighed against the risk of potentially life-threatening bleeds, which also increase with age. Despite increases in OAC prescribing over time[10], prescribing rates remain low in those eligible, as reported by Ritchie et al.[3]. A further NICE recommendation is that anticoagulation should not be withheld “solely because of a person’s age or their risk of falls”[6]. Age is incorporated into risk stratification tools, but remains a factor in OAC decision-making[1].

There is limited evidence on falls risk and OAC use, despite being significantly associated with non-prescription of OAC in the studies by Ritchie et al. [3] and Wilkinson et al.[4], alongside age and cognition. Man-Son-Hing et al (1999) found no specific data in over 75s to estimate the probabilities of major bleeding and therefore “arbitrarily tripled” the estimates for ages 65 to 75 – an extreme version of extrapolation of evidence from younger, healthier cohorts, perhaps. They estimated that an older person with AF and a 6% annual stroke risk would have to fall 295 times in one year for the risk of OAC to outweigh the benefits based on falls risk alone. However, the annual stroke risk has been estimated to range from 0.2-14.4%[7] and increases with age[2,8], co-morbidity, chronicity of AF[1] and frailty[4]. A post-hoc analysis of 16,491 participants with falls history from the ARISTOTLE study[7] found that only 753 (4.6%) had a history of falls. A history of falls was associated with excess major bleeding (adjusted HR 1.39; 95% CI 1.05 to 1.84; p=0.020), including intracranial bleeding (adjusted HR 1.87; 95% CI 1.02 to 3.43; P = 0.044) and death (adjusted HR 1.70; 95% CI 1.36
to 2.14; P < .0001[7], with stable stroke rates. Similarly, the ENGAGE AF-TIMI 48 trial[11] analysed outcomes in the 900 participants (4.3% of total trial participants) estimated to be at high risk of falls. They reported increased risk of major bleeding (HR 1.30; 95% CI 1.04 to 1.64; p = 0.023), life-threatening bleeding (HR 1.67; 95% CI: 1.11 to 2.50; p = 0.013), and all-cause mortality (HR 1.45; 95% CI: 1.23 to 1.70; p < 0.001), with no significant difference in ischaemic events including stroke. While falls risk was not an exclusion criteria in ARISTOTLE or ENGAGE AF-TIMI 48, these trials are likely to have been subject to selection bias based on concern about bleeding risk and therefore may not represent those at highest risk of falls or adverse outcomes. There is insufficient evidence on outcomes stratified by falls risk, mainly limited to small, underpowered studies[12,13]. Retrospective observational analyses based on identification of falls outcomes have shown conflicting results. Up-to-date evidence on outcomes associated with OAC use (and DOACs specifically), stratified by falls risk in older adults is urgently needed to aid decision-making and support or refute the new NICE recommendations. However, as those with increased falls risk are more likely to be frail, with co-existing multimorbidity and polypharmacy, patient-centred, holistic decision-making is required, rather than consideration of a single risk factor in isolation.

In summary, OAC significantly reduces stroke outcomes in older patients with AF. However, there remains limited evidence on the impact of frailty, multimorbidity and increased falls risk, and there are few studies specifically looking at care home residents to guide individualised discussions on risk versus benefit. Ritchie et al.[3] and Wilkinson et al.[4] provide estimates of AF prevalence in those living in long term care and people aged over 65 respectively. Wilkinson et al. provide further evidence of low OAC prescribing rates in older adults, with increased stroke and mortality risk of AF in frail older adults. Undoubtedly, OAC prescribing in older adults needs to be optimised to reduce adverse outcomes, but finding the right balance of risk at an individual level requires more definitive evidence in specific under-represented groups. Meanwhile, we should continue to navigate a patient-centred approach, supported by evidence and guidelines where they can be sensibly extrapolated to the patient in front of us.
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6. Draft guidance consultation | Project documents | Atrial fibrillation: management | Guidance | NICE.


