

Atrial Fibrillation and Anticoagulation in the Nursing Home Setting

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Atrial fibrillation (AF) is an important predisposing risk factor for stroke. Its prevalence increases with age and the majority of those affected are over 75. Based on the CHA₂DS₂-VASc risk score, anticoagulation is indicated in all those over the age of 75 before additional risk factors are even considered. The BAFTA study in 2007¹ was the first randomised controlled trial demonstrating safety and efficacy of anticoagulation in this age group, with earlier studies excluding older patients. Despite further research supporting its use in this population, the medical community has been slow to implement anticoagulation, possibly due to misconceptions around life expectancy and bleeding risk.

Nursing home residents with AF are at high risk of thromboembolic stroke based on the range of vascular comorbidities commonly encountered in this setting², but also challenges to anticoagulation related to limitation of physical mobility, falls and cognitive and sensory impairment³. Nonetheless there are concerns that many older nursing home residents are not anticoagulated for AF where this strategy might be appropriate⁴. This problem is akin to prevention and treatment strategies for other conditions in nursing homes, reflective of a lack of a professional focus on nursing home medicine⁵ and represents an opportunity for reflection and action to tailor care appropriately to this group.

At the time of writing, a literature search on the topic of anticoagulation for AF generated 7,596 articles in the preceding 10 years: combining the search with the term "nursing homes" yielded only 11 publications. These document a unifying theme of heterogeneity in physicians' attitudes, as well as their decisions to anticoagulate or not. This is in part due to the application of clinical reasoning and consideration for issues such as quality of life, pill burden and falls risk: however, the variability in prescribing patterns goes beyond these important considerations. One multivariate analysis of AF patient characteristics found that history of prior stroke was the only factor positively associated with anticoagulant use. This may be attributable to changes in patient outlook or to physician bias, but it is indicative of a need for a more nuanced and pro-active approach to clinical decision making in the nursing home setting, symptomatic of this group's underrepresentation in the literature.

A patient-centred approach to clinical decision making is needed in those who are particularly vulnerable to falls: while nursing home residents are especially at risk, this care setting offers a unique opportunity to implement strategies to prevent falls or to reduce their severity. Measures such as pressure-activated alarms, low level beds and shock absorbing mats have been successful to varying degrees. Given the correlation between severity of falls and risk of intracranial haemorrhage, the application of these measures may facilitate less risky anticoagulation thereby reducing the risk of disabling ischaemic stroke.

The proportion of patients in Ireland with AF treated with anticoagulation has risen steadily over the last two decades with the introduction of non-vitamin K antagonist oral anticoagulants (NOACs), and their reimbursement under the various repayment schemes. Less necessity for monitoring with blood tests, fewer dietary interactions and reduced medication incompatibilities are some of the factors attributable to the more widespread use of NOACs compared to warfarin. Beyond these, quality of life and ease of access issues influencing patient and physician choice, the safety and efficacy of NOACs in aging populations is well described in the literature and unlike warfarin, the seminal clinical trials for NOACs benefit from inclusion of older people. A meta-analysis of 26 randomised controlled trials favoured anticoagulation of patients over 65 years of age, with NOACs achieving superior safety and efficacy over warfarin. Coupled with the option for validated dose reduction in certain circumstances, this likely plays an important role in physician confidence when engaging in the shared decision to anticoagulate their older patient.

Screening for AF remains controversial, with no randomised trial affirming a net benefit of anticoagulation in screening-detected AF: however opportunistic screening and prophylactic anticoagulation is a continually evolving area of research⁶, and new wearable device technology is already increasing detection independently of structured screening programmes. The absolute risk of stroke increases significantly with age after adjustment for other risk factors, resulting in a much lower number needed to treat which persists despite competing risk for death in all but the most advanced frailty. Despite this, observational data frequently demonstrate an association between advancing age and non-utilisation of preventative anticoagulation⁷.

The net benefit of anticoagulation must be balanced with risk, and the established tools for calculation of bleeding risk are crude in their utility in the context of advanced frailty⁸; nonetheless frailty per se should not be considered a contraindication to anticoagulation⁹. Current guidelines emphasise remediation of modifiable risk factors such as hypertension, falls and medication interactions in preference to withholding anticoagulation. Similarly, in patients with cognitive impairment the benefit of anticoagulation is preserved despite the increased risk of mortality. There remains a need for clinical judgement as well as further research in this area to abstract a more discerning clinical decision tool for nursing home patients.

In light of the current aging population it is predictable that the prevalence of AF will continue to rise¹⁰. As technology advances this may be compounded by improved detection. A comprehensive strategy to manage the associated risk of stroke and systemic embolism is needed, particularly in higher risk groups such as those with previous cardiovascular events, diabetes and advanced age.

Nursing home residents are particularly vulnerable to the complications of both AF and its treatments, however the evidence discussed above favours greater use of anticoagulation. Mitigation of bleeding risk by methods such as the adjunctive therapies outlined is preferable to omission of treatment. Consequently, further work is needed to examine outcomes with anticoagulation in nursing homes and to promote a better understanding of the treatment options, and their merits and pitfalls, amongst physicians attending to the unique challenges and needs of this vulnerable cohort of patients, which remains an underdeveloped area in terms of literature and professional competence.

Keywords (MeSH): Atrial Fibrillation; Aging; Nursing Homes; Prevention; Anticoagulants

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