THROMBOEMBOLISM IN FRAIL, ELDERLY PATIENTS WITH ATRIAL FIBRILLATION

Atrial fibrillation (AF) is extremely prevalent in the elderly population and its incidence increases with age. Furthermore, AF and age increase the risk of thromboembolic events. For this reason, anticoagulation therapy is vital in the elderly, however prescribers often avoid anticoagulants in this population due to the increased risk of bleeding. This issue of CLIPS briefly summarizes an article that discusses the challenges associated with prescribing thromboprophylaxis in frail, geriatric patients diagnosed with AF. The article also proposes an algorithm to assist in the prescribing of such therapy for elderly patients.


Stroke risk in elderly patients with atrial fibrillation- assessing thromboembolic prevention
- The Framingham study shows that the risk of stroke for patients with AF is 1.5% in patients aged 50-59 years and 23.5% in patients aged 80-89 years.
- In addition to being an independent risk factor in assessments of thromboembolic risk, age also increases the risk that a patient will present with other factors that affect their assessment scores.
- According to the guidelines, the use of antiplatelets is not recommended for thromboprophylaxis in patients 75 years or older due to the decrease in their efficacy associated with aging.
- Warfarin has shown to reduce the risk of thromboembolism by 64% in the general population and is supported by the guidelines for use in the elderly.

Safety and bleeding risk in elderly patients receiving thromboembolic therapy
- Many observational registries have shown that the incidence of major bleeding due to anticoagulants is much higher than is reported in clinical trials.
- Intracranial hemorrhages are 2.5 times more common in patients 85 years old or older and can be attributed to approximately 90% of deaths from anticoagulant associated bleeding.
- Both warfarin and aspirin have similar risks for extracranial hemorrhaging.

New oral anticoagulants and thromboembolic prevention
- Apixaban and 150 mg dabigatran were found to be superior to warfarin in thromboembolic prevention for patients 75 years or older.
- Rivaroxaban, edoxaban, and 110 mg dabigatran have been found to be non-inferior to warfarin for thromboprophylaxis.
- According to the ARISTOTLE and ENGAGE AF-TIMI trials, apixaban and 30 mg edoxaban has a lower incidence of major bleeds in patients 75 years of age or older when compared to warfarin.
- Rivaroxiban, dabigatran, and high dose edoxaban have shown an age associated increased risk of bleeding.
- According to the Apixaban vs Acetylsalicylic Acid to Prevent Stroke in Atrial Fibrillation Patients who Failed or are Unsuitable for Vitamin K Antagonist Treatment trial, apixaban has a similar risk of major bleeding when compared to aspirin for patients 65-75 years of age.
- According to the RE-LY trial, dabigatran decreases the risk of major intracranial bleeding as compared to warfarin but increases the incidence of extracranial bleeds in the elderly.

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Recommendations for oral anticoagulation

- The eight key factors to consider when choosing an anticoagulation therapy are as follows: comorbidities, polypharmacy, adherence, cognitive function, mobility, nutritional status, fall risk, and life expectancy.
- Acute and chronic comorbidities may require dose adjustments to ensure safe and optimal therapy. Some chronic conditions, such as renal or liver dysfunction, may be a contraindication for the use of specific agents.
- Due to the potential for drug interactions and the increased risk of poor adherence, patients receiving a minimum of 5 drugs or one drug known to interact with anticoagulants should be assessed for polypharmacy.
- Frequent changes to the drug regimen increase the risk of having an unstable INR in the elderly as compared to middle aged patients.
- Adherence is quintessential to success with oral anticoagulation therapy, however, non-adherence has been shown to range from 40-75% in the elderly population.
- Adherence should initially be assessed weekly but may be transitioned to every one to three months. If new oral anticoagulants (NOACs) are being given to patients with low adherence, it is recommended to schedule regular visits or phone calls.
- If adherence is suboptimal, consider warfarin. If adherence is expected to be poor, consider withholding anticoagulants.
- If poor cognitive function and poor supervision are a concern, it is acceptable to withhold therapy.
- NOACs may be preferred in patients with limited mobility as it eliminates the need for monitoring.
- Patients with poor food intake may benefit from the NOACs because their efficacy does not vary with diet.
- Patients with severe difficulty swallowing will need parenteral therapy, but patients with moderate difficulty should have no problem with oral agents.
- Though falls increase the risk of intracranial hemorrhage, evidence indicates that the risks do not outweigh the benefits of anticoagulant therapy in elderly patients with AF.
- For patients with reduced life expectancy, consider that anticoagulants will not reduce all-cause mortality or hospital admissions and that the patient’s bleed risk is more likely to be high when making a decision. It is reasonable to assume that therapy can be withheld if the prognosis is at most 6 months.

Assessment

- The following algorithm is proposed to help optimize agent selection and is recommended for patients 75 years of age or older. It can be completed by a trained nurse in approximately 30 minutes.
- If it is established that the patient has low risk of thromboembolic events, high risk of bleeding, poor probability of adherence, high risk of overdose, dementia without a caregiver, or a life expectancy less than 6 months; consider withholding oral anticoagulant therapy.
- Once the patient has been diagnosed with AF; perform the CHADS2, CHA2DS2-VASc, or ATRIA assessment to establish the risk of having a thromboembolic event.
- Next, perform the HAS-BLED or HEMORRH-HAGES assessment to establish the patient’s bleed risk.
- For patients 75 years old or older, perform the multidimensional frailty assessment as follows:
  - Assess comorbidities via the Cumulative Illness Rating Scale, creatinine clearance, and Child-Pugh score.
  - Assess the number of drugs in their regimen.
  - Assess adherence,
  - Assess cognition using the Short Portable Mental Status Questionnaire.
  - Assess mobility using activities of daily living and instrumental activities of daily living.
  - Assess nutrition using the Mini Nutrition Assessment.
  - Assess life expectancy using the Multidimensional Prognosis Index.
- If the patient is younger than 75 or found to be “fit” based on the above assessment, then follow the guidelines for oral anticoagulation therapy. Those classified as frail will need a uniquely tailored regimen.

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