

# Whether to anticoagulate: Toward a more reasoned approach

**T**HE ARTICLE BY HAGERTY AND RICH in this issue of the *Cleveland Clinic Journal of Medicine*<sup>1</sup> covers an important topic—whether elderly patients with atrial fibrillation should receive anticoagulant therapy for it, or whether the risk of bleeding with this therapy outweighs the benefit of preventing stroke.

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## ■ BETTER RISK PREDICTORS ARE NEEDED

Prediction tools are available for estimating the risk of stroke in patients with atrial fibrillation without anticoagulation<sup>2,3</sup> and to estimate bleeding risk from anticoagulation<sup>4-7</sup> (Table 1). Both tools have limitations, but as Hagerty and Rich point out, the stroke risk scales are likely better than the bleeding risk scales.

For example, Fang et al<sup>8</sup> note that the risk of intracranial hemorrhage increases significantly after age 85. The bleeding risk scales use lower age cutoffs than this, perhaps increasing their sensitivity but decreasing their specificity.

Although HAS-BLED<sup>5,6</sup> includes antiplatelet drugs such as nonsteroidal anti-inflammatory drugs and aspirin as risk factors for bleeding, ATRIA<sup>4</sup> and HEMORR<sub>2</sub>HAGES<sup>7</sup> do not.

Other drugs such as macrolides, quinolones, and high-dose corticosteroids raise the international normalized ratio (INR). These are typically used short-term, but can cause major fluctuations in the INR that may not be detected by monthly INR checks. Incorporating the short-term use of such drugs into

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TABLE 1

### Risk scores discussed in this article

#### For predicting stroke risk in atrial fibrillation without anticoagulation therapy

**CHADS<sub>2</sub>**—1 point each for congestive heart failure, hypertension, age ≥ 75, diabetes mellitus; 2 points for prior stroke or transient ischemic attack (possible points 6)<sup>2</sup>

**CHA<sub>2</sub>DS<sub>2</sub>-VASc**—1 point each for congestive heart failure, hypertension, age 65–74, diabetes mellitus, vascular disease (coronary artery disease, peripheral arterial disease, aortic aneurysm), sex category female; 2 points for age ≥ 75 and for prior stroke or transient ischemic attack (possible points 9)<sup>3</sup>

#### For predicting bleeding risk with anticoagulation therapy

**ATRIA**—anemia, 3 points; severe renal disease, 3 points; age ≥ 75, 2 points; previous bleeding event, 1 point; hypertension 1 point (possible points 10); ATRIA stands for Anticoagulation and Risk Factors in Atrial Fibrillation study<sup>4</sup>

**HAS-BLED**—1 point each for hypertension, abnormal renal function, abnormal liver function, stroke, bleeding history, labile international normalized ratio, elderly status (age > 65), drugs, and alcohol abuse (possible points 9)<sup>5,6</sup>

**HEMORR<sub>2</sub>HAGES**—1 point each for hepatic or renal abnormality, ethanol abuse, malignancy, older age (> 75) reduced platelet function; 2 points for rebleeding risk; and 1 point each for hypertension (uncontrolled) anemia, genetic factors, excessive falls, and stroke (possible points 12)<sup>7</sup>

bleeding risk scales would be difficult if not impossible a priori. Yet clinicians should be aware that these drugs can affect bleeding risk.

As Hagerty and Rich note,<sup>1</sup> the bleeding risk scores were developed for warfarin, and their applicability to patients treated with novel oral anticoagulants is uncertain.

All three of the available bleeding risk

scales consider prior bleeding as a risk factor, but the severity of the prior bleeding varies. Although it is understandable to include major bleeding as a risk factor since it carries an increased risk of death, minor bleeding can affect morbidity and quality of life. Only the ATRIA score<sup>4</sup> considers both major and minor bleeding, while HEMORR<sub>2</sub>HAGES<sup>7</sup> does not specify bleeding severity, and HAS-BLED<sup>5,6</sup> considers only major bleeding. Clearly, there is a need to update these existing bleeding risk scores so that they can apply to novel oral anticoagulants and consider both major and minor bleeding.

As the authors note, for predicting the risk of stroke, the CHA<sub>2</sub>DS<sub>2</sub>-VASc score<sup>3</sup> provides

more precision than the CHADS<sub>2</sub> score<sup>2</sup> at the lower end of the benefit spectrum. Unfortunately, there is no similar screening tool to predict bleeding risk from anticoagulation with greater precision in the middle to lower part of the risk spectrum.

### ■ THE PATIENT'S PREFERENCES MATTER

The patient's life expectancy and personal preferences are important independent factors that affect the decision of whether to anticoagulate or not. It is the responsibility of clinicians who care for older adults to make sure that these two important considerations are included in any anticoagulation decision-making for this group of patients. ■

### ■ REFERENCES

1. Hagerty T, Rich MW. Fall risk and anticoagulation for atrial fibrillation in the elderly: a delicate balance. *Cleve Clin J Med* 2017; 84:35–40.
2. Gage BF, Waterman AD, Shannon W, Boechler M, Rich MW, Radford MJ. Validation of clinical classification schemes for predicting stroke: results from the National Registry of Atrial Fibrillation. *JAMA* 2001; 285:2864–2870.
3. Lip GY, Nieuwlaat R, Pisters R, Lane DA, Crijns HJ. Refining clinical risk stratification for predicting stroke and thromboembolism in atrial fibrillation using a novel risk factor-based approach: the Euro Heart Survey on atrial fibrillation. *Chest* 2010; 137:263–272.
4. Fang MC, Go AS, Chang Y, et al. A new risk scheme to predict warfarin-associated hemorrhage: the ATRIA (Anticoagulation and Risk Factors in Atrial Fibrillation) study. *J Am Coll Cardiol* 2011; 58:395–401.
5. Pisters R, Lane DA, Nieuwlaat R, de Vos CB, Crijns HJ, Lip GY. A novel user-friendly score (HAS-BLED) to assess 1-year risk of major bleeding in patients with atrial fibrillation: the Euro Heart Survey. *Chest* 2010; 138:1093–1100.
6. Lip GY, Frison L, Halperin JL, Lane DA. Comparative validation of a novel risk score for predicting bleeding risk in anticoagulated patients with atrial fibrillation: the HAS-BLED (Hypertension, Abnormal Renal/Liver Function, Stroke, Bleeding History or Predisposition, Labile INR, Elderly, Drugs/Alcohol Concomitantly) score. *J Am Coll Cardiol* 2011; 57:173–180.
7. Gage BF, Yan Y, Milligan PE, et al. Clinical classification schemes for predicting hemorrhage: results from the National Registry of Atrial Fibrillation (NRAF). *Am Heart J* 2006; 151:713–719.
8. Fang MC, Chang Y, Hylek EM, et al. Advanced age, anticoagulation intensity, and risk for intracranial hemorrhage among patients taking warfarin for atrial fibrillation. *Ann Intern Med* 2004; 141:745–752.

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