

## EDITORIAL COMMENT

## ABCs

## A Better Chance to Improve Outcomes in Atrial Fibrillation\*



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**A**trial fibrillation (AF) is the most common arrhythmia, affecting 2% to 3% of the general population with a 10% prevalence in those over 80 years of age.<sup>1</sup> The number of patients with AF is expected to increase substantially over the next decade with the increasing accumulation of chronic cardiovascular diseases and lifestyle-related risk factors in an already aging population. Once diagnosed, AF requires chronic, multipronged management in several domains. AF-related medical care is resource intensive because it can lead to stroke, heart failure, unplanned hospital admissions, loss of quality-adjusted life-years, and death.<sup>2,3</sup>

Several concomitant cardiovascular conditions such as valvular heart disease, hypertension, diabetes, and heart failure coexist in patients with AF.<sup>4</sup> Coupled with these are modifiable lifestyle-related conditions such as alcohol use, sleep apnea, and obesity. An approach targeting detection and comanagement of these conditions leads to improved outcomes.<sup>5</sup>

Over the years, a plethora of AF-related risk calculators have been described and scientifically studied, ranging from calculators to predict incident stroke and need for anticoagulation (CHA<sub>2</sub>DS<sub>2</sub>, CHA<sub>2</sub>DS<sub>2</sub>-Vasc, ATRIA, and others), bleeding risk on oral anticoagulation therapy (HAS-BLED, HEMORR-2HAGES), for assessment of symptoms and quality

of life assessment (EHRA, AFFECT), and more complex clinical outcomes scores, some including biochemical markers (GARFIELD-AF, Intermountain Risk Score, ABC-stroke).<sup>6,7</sup> Although these risk scores have discriminative ability for risk stratification for their respective outcomes, they do not address a holistic approach to the care of patients with AF.

By contrast, the ABC (Atrial Fibrillation Better Care) pathway is a simplified approach to structured management of patients with AF that can potentially be widely adopted. The pathway comprises 3 major domains: A: anticoagulation; B: better symptom management; and C: cardiovascular and comorbidity optimization. Compared with usual care, implementation of the ABC pathway has been significantly associated with lower risk of all-cause death, composite outcome of stroke/major bleeding/cardiovascular death and first hospitalization, lower rates of cardiovascular events, and lower health-related costs.<sup>8,9</sup> The ABC pathway was included in the 2020 European Heart Rhythm Association guidelines for the diagnosis and management of atrial fibrillation.<sup>6</sup>

In this issue of *JACC: Asia*, Bucci et al<sup>10</sup> report findings from the APHRS (Asia-Pacific Heart Rhythm Society) AF registry. They included over 4,000 participants (mean age 68 years, 34% women). Adherence to each of the 3 pillars of the ABC pathway was determined based on predefined criteria. Adherence to all 3 criteria was seen in <40% patients. Interestingly, adherence to anticoagulation and symptom control was high at 87% and 94%, respectively, which suggests that anticoagulation as well as adequate rhythm or rate control therapies were prescribed and accepted with high frequency in this population. By comparison, <50% of participants were adherent to the “C” criteria: adequate treatment of cardiovascular comorbidities. This discrepancy likely is present because of the greater complexity of treating all of the cardiovascular comorbidities for an individual patient. The primary outcome was a composite of

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all-cause death, any thromboembolic events, acute coronary syndrome, or percutaneous interventional procedures and advancing heart failure at 1-year follow-up. The primary outcome was seen in 6.7% participants with the largest subcategory being acute coronary syndromes/need for percutaneous coronary intervention. Using multivariate Cox regression analysis, the investigators report that ABC pathway adherence was associated with lower incidence of primary composite outcome compared with ABC nonadherent patients. They also show that the risk of adverse outcomes may be inversely related to the higher number of ABC criteria adhered to.

The investigators should be congratulated on the rigorous approach and application of sound statistical methods and careful phenotyping of the participants. The conclusion that inadequate treatment of cardiovascular conditions that are concomitantly associated with AF lead to worse outcomes certainly has biological plausibility. Their findings are in line with previous studies evaluating similar outcomes done in European and North American cohorts.<sup>8,9</sup> The biggest strength of this study is confirmation of the benefits of the ABC pathway in Asian cohorts and focusing physicians' attention on the management of comorbid conditions.

Despite this, there are some potential concerns about this study and its conclusions. A large body of work has shown that multimorbidity is commonly associated with AF, and a higher burden of comorbid conditions is associated with worse outcomes.<sup>5,11,12</sup> Hence, these findings are somewhat expected. In fact, in this cohort, the primary outcome was driven by acute coronary syndromes/need for percutaneous coronary intervention, which typically is not directly associated with AF but rather is simply a covariate.

There may be several other factors that were not measured in this study: medication/treatment compliance may be lower in patients with multiple comorbidities. For many risk factors, risk is a continuum rather than a binary yes/no. Risk factors are dynamic, and given the elderly AF population with multiple (often changing) comorbidities, risk assessment needs to be performed frequently and may not be captured well in a snapshot. Lastly, addressing lifestyle-related modifiable risk factors is important to improve outcomes and was not included as part of criteria "C."

In summary, we applaud the investigators for this meticulously performed research that adds to the growing body of literature supporting a multifaceted approach to the management of patients with AF. This work serves as a reminder to all of us to treat our AF patients holistically and work on stroke prevention, symptom control, and general cardiac risk factor modification for best outcomes. We hope that future work will address questions related to processes of improving guideline-adherent practices, therapy compliance, equity, prevention, and adequate treatment of cardiac and noncardiac comorbidities.

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