

EDITORIAL COMMENT

ABC Pathway

A Pivotal Strategy for the Integrated Care Management of Atrial Fibrillation*



Yasuo Okumura, MD, PhD

Atrial fibrillation (AF) is the most common arrhythmia in adults and increases the risk of a stroke. Over the past decade, the importance of reducing strokes and stroke-related deaths with oral anticoagulants has been widely reported throughout the world. AF patients have not only lifestyle-related comorbidities such as hypertension, diabetes, etc., but also the risk of other cardiovascular events and all-cause death. That clinical background of AF has resulted in substantial interest in developing an integrated and holistic approach for the management of AF. The ABC (Atrial fibrillation Better Care) pathway is proposed as a simple decision-making strategy to streamline the integrated approach to provide holistic care for patients with AF. The ABC pathway refers to: ‘A’ Avoid strokes with Anticoagulation, ‘B’ Better symptom management with patient-centered and symptom-directed decisions on rate or rhythm control, and ‘C’ Comorbidity and Cardiovascular risk factor management, including lifestyle changes. It is designed to improve the clinicians’ awareness and management of AF patients. There have been several reports confirming the benefits of adhering to the ABC pathway management in different clinical settings and patient populations.¹⁻³ However, no real-world study explicitly exists in the Chinese population.

In this issue of *JACC: Asia*, Guo et al⁴ retrospectively investigated the impact of the ABC pathway in

the Chinese population. In their analysis, ABC pathway adherent care was independently associated with a lower risk of the composite outcome of all-cause death/any thromboembolic (TE) events (odds ratio [OR]: 0.519; 95% CI: 0.312-0.862). The ABC pathway adherent care was associated with a reduction in the all-cause death in the univariate analysis (OR: 0.387; 95% CI: 0.213-0.702), but not in the multivariate analysis. In the univariate analysis, TE events and major bleeding also did not differ significantly between the ABC pathway adherent and nonadherent groups (OR: 0.453; 95% CI: 0.204-1.008 and OR: 1.092; 95% CI: 0.529-2.254, respectively). The lack of a difference with a wide range in the 95% CI for each component of the outcomes implies that it was due to a small sample size, low rate of adverse events, and relatively short follow-up. Nonetheless, their data add new insight into adopting the ABC pathway as the management approach for AF. They found that an increasing number of fulfilled ABC criteria gradually lowered the OR of adverse outcomes. A significant reduction in the composite outcome was found only if 3 ABC pathway criteria were fulfilled, suggesting the importance of performing holistic management with all 3 ABC criteria to improve the clinical outcomes. Nonetheless, there were several considerable points to be noted when interpreting their results. Because their study was not designed to investigate the prognostic impact of ABC pathway adherent care in AF patients, they retrospectively analyzed the clinical role of the ABC pathway from the data of the ChiOTEAF (Optimal Thromboprophylaxis in Elderly Chinese Patients With Atrial Fibrillation) registry. Numerous patient characteristics significantly differed between the ABC adherent patients and nonadherent patients. In particular, the ABC nonadherent patient group had poor clinical conditions, that is, they were older and had a higher risk of a stroke and bleeding. Old age, heart failure, and

*Editorials published in *JACC: Asia* reflect the views of the authors and do not necessarily represent the views of *JACC: Asia* or the American College of Cardiology.

From the Division of Cardiology, Department of Medicine, Nihon University School of Medicine, Tokyo, Japan.

The author attests they are in compliance with human studies committees and animal welfare regulations of the author’s institution and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the [Author Center](#).

diabetes were all significant covariables for poor clinical outcomes, and they were not fully controlled even if a multivariate adjustment was used. Another considerable point was that they retrospectively collected the patient characteristics at the enrollment, and thus, some important data for assessing the ABC pathway were lacking. For example, there were no baseline or serial data on the oral anticoagulant adherence (the time in a therapeutic range, etc.) and creatinine clearance for the qualification of the “A,” the antiarrhythmic drugs and history of ablation for the “B,” and the blood pressure, body mass index, alcohol intake, and smoking and behavior changes in those habits for the “C.” As a result, they used the original definition to qualify each component of the ABC pathway by using limited data. Those lenient definitions might have partially explained their higher prevalence of ABC adherent patients (44%) and smaller risk reduction of the composite clinical events in this group (48% risk reduction) as compared with the prior retrospective studies in which more strict definitions were used (7%-21.8% ABC adherent patient rate with a 57%-65% risk reduction).¹⁻³ Conversely, their data may have indicated the significant benefits on the overall clinical outcomes even with the lenient definition of the ABC pathway. To achieve a successful integrated and holistic AF management, not only a comprehensive assessment based on the ABC pathway, but also coordinated care, patient education, dedicated follow-up, and multidisciplinary collaboration are all key elements. In fact, the meta-analysis confirmed a consistently lower risk of each of the clinical events in interventions based on an integrated care approach adherent to the AF guidelines as compared with the usual care group.⁵ More recently, Guo et al⁶ conducted a randomized controlled trial to determine whether a mobile health technology-supported AF integrated management strategy would reduce AF-related adverse events as compared to usual care. Their intervention was an integrated care based on a mobile AF application, which incorporates the ABC pathway and includes several patient educational programs and communication tools for doctors to use with

patients. Their relatively strict integrated AF management showed a substantially lower composite outcome of ischemic strokes/systemic TEs, death, and rehospitalizations as compared with normal care (1.9% vs 6.0%; hazard ratio: 0.39; 95% CI: 0.22 to 0.67; $P < 0.001$), which strongly supports the clinical significance of the integrated AF management and adopting the ABC pathway as a pivotal recommendation in 2020 ESC guidelines.⁷ The annual ischemic stroke rate in Japanese AF patients has been reported to be 1.3%,⁸ but it was 10.4% in the Chinese AF patients in Hong Kong and even higher and up to 13% in Southeast Asia and the Far East.⁸ The difference in the clinical outcome rates may stem from the different epidemiology and ethnicity, and in particular, it may heavily depend on the socioeconomic development and health care systems in each country. Therefore, the prognostic impact of the ABC pathway may vary between countries. The health care pathway via an electric platform to systemize all key elements for an integrated AF management should be developed. However, a persistent effort is required to optimize an integrated AF management tailored to the specific country and health care system while considering the cost-effectiveness. The ABC pathway is a simple decision-making tool for integrated AF management, but it can also motivate an interest in a holistic and integrated AF management in primary and secondary care physicians, other multidisciplinary health care professionals, health care providers, patients, families, and caretakers.

FUNDING SUPPORT AND AUTHOR DISCLOSURES

Dr Okumura has received research funding from Bayer Healthcare, Daiichi-Sankyo and Bristol-Myers Squibb; has accepted remuneration from Bayer Healthcare and Daiichi-Sankyo; and belongs to the endowed departments of Boston Scientific Japan, Abbott Medical Japan, Japan Lifeline, Medtronic Japan, and Nihon Kohden.

ADDRESS FOR CORRESPONDENCE: Dr Yasuo Okumura, Division of Cardiology, Department of Medicine, Nihon University School of Medicine, 30-1 Ohyaguchi-kamicho, Itabashi-ku, Tokyo 173-8610, Japan. E-mail: okumura.yasuo@nihon-u.ac.jp.

REFERENCES

1. Proietti M, Romiti GF, Olshansky B, Lane DA, Lip GYH. Improved outcomes by integrated care of anticoagulated patients with atrial fibrillation using the simple ABC (atrial fibrillation better care) pathway. *Am J Med.* 2018;131:1359-1366.e6.
2. Pastori D, Pignatelli P, Menichelli D, Violi F, Lip GYH. Integrated care management of patients with atrial fibrillation and risk of cardiovascular events: the ABC (atrial fibrillation better care) pathway in the ATHERO-AF study cohort. *Mayo Clin Proc.* 2019;94:1261-1267.
3. Yoon M, Yang PS, Jang E, Yu HT, Kim TH, Uhm JS, et al. Improved population-based clinical outcomes of patients with atrial fibrillation by compliance with the simple ABC (atrial fibrillation better care) pathway for integrated care management: a nationwide cohort study. *Thromb Haemost.* 2019;119:1695-1703.
4. Guo Y, Imberti JF, Kotalczyk A, Wang Y, Lip GYH, on behalf of the ChiOTeAF Registry

- Investigators. Atrial fibrillation Better Care pathway adherent care improves outcomes in Chinese patients with atrial fibrillation. *JACC: Asia*. 2022;2:422-429.
5. Gallagher C, Elliott AD, Wong CX, et al. Integrated care in atrial fibrillation: a systematic review and meta-analysis. *Heart*. 2017;103:1947-1953.
6. Guo Y, Lane DA, Wang L, et al. Mobile health technology to improve care for patients with atrial fibrillation. *J Am Coll Cardiol*. 2020;75:1523-1534.
7. Hindricks G, Potpara T, Dagres N, et al. 2020 ESC guidelines for the diagnosis and management of atrial fibrillation. *Eur Heart J*. 2021;42(5):373-498.
8. Chan NY, Orchard J, Agbayani MJ, et al. Asia Pacific Heart Rhythm Society (APHRS) practice guidance on atrial fibrillation screening. *J Arrhythm*. 2022;38:31-49.

KEY WORDS ABC pathway, atrial fibrillation