

Letter to the Editor

Comment on the ESCORT Study: Atrial Fibrillation Detection by Pulse Checking Remains Challenging

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To the Editor:

I read with great interest the recent article by Katano et al.¹ entitled “Improvement in Atrial Fibrillation Detection by Pulse Checking of Patients with Non-Cardioembolic Stroke in Rehabilitation Hospitals: The ESCORT Study”, published in the Journal of Nippon Medical School. This study focused on the importance of atrial fibrillation (AF) detection by regular pulse checking, the simplest method for detecting an irregular pulse without any specific equipment, in patients with non-cardioembolic stroke.

In this study, therapists checked the pulse before, during, and after rehabilitation during the inpatient period and an electrocardiogram (ECG) was recorded to confirm AF if an irregular pulse or tachycardia was detected². As the authors mentioned, AF is a strong risk factor for ischemic stroke; thus, early AF detection is important to prevent cardiogenic stroke as the primary prevention³. In addition, I agree that AF detection is also important to determine whether antithrombotic therapy (antiplatelet or anticoagulant) is necessary for the secondary prevention of stroke in patients after ischemic stroke, especially those with “cryptogenic stroke” and “embolic stroke of undermined source (ESUS)”. AF is often detected even in patients with non-cardiogenic stroke when using long-term recording devices such as an insertable cardiac monitor⁴. Therefore, the concept of AF detection by pulse checking during rehabilitation in patients with non-cardiogenic stroke examined in this study is valuable.

However, no tachycardia or AF was detected in this study, even in the four patients with recurrent stroke events. As the authors describe in the Discussion, several reasons can be proposed. First, checking the pulse for only 15 seconds, and obtaining a single ECG recording at health checkups could not reliably detect paroxysmal AF. Therefore, the AF detection rate based on health checkups and pulse checking must be underestimated. In our

previous study based on ECG findings in annual specific health checkups⁵, the prevalence of AF in the general population aged 40–74 years was 1.4% (2.9% in men and 0.4% in women) in 2015 and the incidence rate of new-onset AF was 2.5/1,000 person-years (4.5/1,000 person-years in men and 1.3/1,000 person-years in women)⁵. Thus, the development of AF during the shorter follow-up period of 6 months is estimated to be 0.125% (0.225% in men and 0.065% in women). Therefore, it is not surprising that AF was not detected among only 158 patients in a median observation period of 179 days in the present study².

On the other hand, the median age of 77 (interquartile range, 71–84) years in this study¹ was higher than the mean age of 67.0 ± 7.3 years in our previous study based on specific health checkups⁵, indicating the patients in this study¹ had higher risk for new-onset AF than the general population⁵. In addition, 64.6% of the patients had hypertension and some had other known risk factors for new-onset AF such as smoking (43.7%), prior cardiovascular disease (8.3%), and premature atrial contraction (3.2%)¹. According to the risk score for 10-year risk of incident AF developed from the Suita study⁶, which includes factors positively associated with incident AF such as age, systolic hypertension, being overweight, excessive drinking, current smoking, arrhythmia other than AF, coronary artery disease, and cardiac murmur, most patients in this study¹ were assigned between 9 and 20 points, indicating a 10-year risk of incident AF between 7% and 27%.⁶ Therefore, although no AF was detected during in-patient rehabilitation in this study¹, if the observation period is extended for future studies, new-onset AF should be detectable using pulse checking, although no AF was detected during only in-hospital period for rehabilitation in this study¹.

As the authors mentioned, complex factors including the small sample size, short observation period, simple pulse checking method, and unknown ESUS rate likely contributed to the apparently negative result of this study¹. However, I hope that this negative result does not deter the use of pulse checking for incident AF detection in moderate- to high-risk patients in daily clinical practice and even in the low-risk general population, although

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further study is required to validate the utility of the method. The Japan Stroke Association, Japanese Heart Rhythm Society, and the Japanese Circulation Society continue to recommend AF detection by pulse checking⁷.

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References

1. Katano T, Suda S, Ohta T, et al. Improvement in atrial fibrillation detection by pulse checking of patients with non-cardioembolic stroke in rehabilitation hospitals: the ESCORT study. *J Nippon Med Sch.* 2024; 91 (6): 527–33.
2. Katano T, Suda S, Ohta T, et al. Regular pulse checks for patients with non-cardioembolic stroke in rehabilitation hospitals to improve recognition and detection of atrial fibrillation (the ESCORT study): protocol for a prospective multicenter observational study. *Front Neurol.* 2023 Aug 16; 14: 1247020.
3. Kodani E. Early detection of atrial fibrillation is the first step to prevent cardiogenic stroke: usefulness of B-type natriuretic peptide. *J Cardiol.* 2015 Jun; 65 (6): 451–2.
4. Bernstein RA, Kamel H, Granger CB, et al. Effect of long-term continuous cardiac monitoring vs usual care on detection of atrial fibrillation in patients with stroke attributed to large- or small-vessel disease: the STROKE-AF randomized clinical trial. *JAMA.* 2021 Jun 1; 325 (21): 2169–77.
5. Kodani E, Kaneko T, Fujii H, et al. Prevalence and incidence of atrial fibrillation in the general population based on National Health Insurance Special Health Checkups-TAMA MED Project-AF. *Circ J.* 2019 Feb 25; 83 (3): 524–31.
6. Kokubo Y, Watanabe M, Higashiyama A, Nakao YM, Kusano K, Miyamoto Y. Development of a basic risk score for incident atrial fibrillation in a Japanese general population-the Suita Study. *Circ J.* 2017 Oct 25; 81 (11): 1580–8.
7. Ono K, Iwasaki YK, Akao M, et al. JCS/JHRS 2020 Guideline on Pharmacotherapy of Cardiac Arrhythmias. *Circ J.* 2022 Oct 25; 86 (11): 1790–924.