How to Demonstrate the Prognostic Benefit of Aggressive Screening of Atrial Fibrillation

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To Editor

The early detection of asymptomatic atrial fibrillation (AF) is considered essential for preventing thromboembolic events and the progression of heart failure. Numerous wearable devices have been developed to facilitate this objective. The authors employed stroke risk analysis (SRA), a method that stratifies the risk of paroxysmal AF through the evaluation of electrocardiogram data.[1] This algorithm proved effective in screening patients with asymptomatic paroxysmal AF, with 29.4% of participants categorized as high-risk. Among these high-risk individuals, AF was detected in 38.7% following a 7-day screening period. Nevertheless, several critical concerns merit discussion.

Keywords

Cardiac Arrhythmias; Wearable Electronic Devices; Stroke

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In the current study, 67.4% of participants were classified as low-risk for AF.[1] To assess the overall validity of the SRA algorithm, the incidence of AF within this low-risk cohort should also have been evaluated through 7-day monitoring. Given that the study included patients aged 65 years and older, it is plausible that some individuals classified as low-risk might have experienced undetected AF episodes.[2]

The optimal duration for AF screening remains uncertain. Extended monitoring periods are likely to improve AF detection rates.[3] Clarification on the rationale behind the authors' choice of a 7-day screening period is warranted. Additionally, a cost-effectiveness analysis should be conducted to determine whether risk stratification using the SRA algorithm is more advantageous compared to prolonged electrocardiogram monitoring across all participants.

Although intensive AF screening via wearable devices, as demonstrated in the present study,[1] appears to enhance detection rates, no conclusive evidence currently supports the prognostic benefit of such interventions. Therefore, large-scale, randomized controlled trials are urgently needed to compare the outcomes of AF screening programs against standard care, thereby elucidating the clinical significance of systematic AF detection.

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Reply

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We are deeply grateful to the authors for their interest and valuable comments regarding our study, "A Program to Optimize the Detection of Paroxysmal Atrial Fibrillation: The RITMO Study."[1] We acknowledge the relevance of the issues raised and would like to take this opportunity to clarify key points.

Early detection of asymptomatic atrial fibrillation (AF) is indeed a topic of great relevance, and is related to the potential prevention of events such as thromboembolic events and heart failure (HF).[2]

Regarding risk stratification using Stroke Risk Analysis (SRA), our study demonstrated that 29.4% of participants

were classified as high risk, with an AF detection rate of 38.7% after seven days with home electrocardiograms. The lack of a stratification tool could compromise the results of the study.[3] Furthermore, the SRA has been shown to be a valuable tool for identifying patients with a higher probability of paroxysmal AF.[4,5]

We agree that the incidence of AF in the group classified as low risk is a very pertinent question. However, our study aimed to evaluate a simple and accessible strategy to optimize the identification of AF in asymptomatic patients aged 65 years or older with arterial hypertension or HF. In addition to performing prolonged monitoring in all participants, which is not the primary objective of our study, this would greatly increase the overall cost of the project. Future studies could explore this issue by assessing the true incidence of AF in this subgroup over a longer monitoring period.

The choice of seven days for home monitoring was based on previous studies.[3] In fact, longer periods could further increase the detection rate,[6] but they should be weighed against patient adherence, cost-effectiveness, and clinical feasibility. A specific cost-effectiveness analysis to compare alternative strategies is under consideration for future research.

We also agree that the clinical relevance of systematic AF screening remains to be confirmed by new large-scale randomized trials. However, early identification of AF, especially in higher-risk populations, may allow earlier implementation of therapeutic strategies, including anticoagulation, reducing the incidence of thromboembolic events.[7-9]

We again thank you for your valuable comments and hope that our study will contribute to the improvement of AF screening strategies in clinical practice.

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