

Editorial comment

Addressing the challenging yet vital task of managing atrial fibrillation in older adults to prevent heart failure



La desafiante pero vital tarea de abordar la fibrilación auricular en los ancianos para prevenir la insuficiencia cardiaca

Andreu Porta-Sánchez^{a,b,*} and Jean-Baptiste Guichard^{a,b,c,d}^aInstitut Clínic Cardiovascular, Hospital Clínic, Universitat de Barcelona, Barcelona, Spain^bInstitut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona, Spain^cINSERM, SAINBIOSE U1059, University Hospital of Saint-Étienne, Saint-Étienne, France^dCardiology Department, University Hospital of Saint-Étienne, Saint-Étienne, France

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The relationship between atrial fibrillation (AF) and heart failure (HF) is one of the most commonly seen in clinical practice in the aging population. Establishing a causal role between the 2 entities is challenging as many conditions act as common risk factors between AF and HF, including diabetes, obesity, hypertension, and structural heart disease.¹ Additionally, the impaired function of the left atrium (LA) and the rapid and irregular ventricular response in AF can result in reduced cardiac output, increased intraventricular pressures, and the subsequent development of HF.

The article by Melendo-Viu et al.² recently published in *Revista Española de Cardiología* provides a comprehensive epidemiological examination of the incidence, risk factors, and prognosis of HF in elderly patients with AF. The research team has dedicated significant efforts to characterize the unique aspects of AF management in a large number of patients of advanced age and to quantify the possible risk factors that could help to identify the patients who will develop HF after receiving a diagnosis of AF.³ This line of observational research is particularly crucial due to the increasing global burden caused by population aging and its consequent increase in the risk of AF, as age is a critical risk factor for AF, and is anticipated to become an even larger major public health problem in the coming decades.⁴

The study by Melendo-Viu et al., which included 5794 patients followed-up for a median of 3.7 years, confirms that HF in patients with a diagnosis of AF is a huge concern with a cumulative incidence of approximately one-third of their population.² Moreover, AF was an independent risk factor for all-cause mortality (hazard ratio [HR] = 1.67; 95% confidence interval [95%CI], 1.53–1.81). This study holds substantial clinical value as it enhances our understanding of the occurrence of HF in elderly individuals with AF and provides valuable information for health

care professionals involved in the management of these conditions. The findings need to be placed in the context of an average age at inclusion of 85 years and the higher proportion of women, likely due to the different life expectancies between sexes.

The authors should be congratulated for their discovery that elderly patients with AF who subsequently develop HF exhibit a distinct phenotype compared with the general HF population. This study also highlights the independent predictive value of several echocardiographic features for the occurrence of HF. Not surprisingly, an impaired left ventricular (LV) systolic function and LA dilation, indicating impaired diastolic LV function, were both associated with a 2-fold increase in the onset of HF during the follow-up. Additionally, the presence of valvulopathy, specifically moderate or severe left valve disease, independently increased the risk of HF development by 44%, although this was only present in a minority of patients, in contrast with a large proportion of patients with hypertension and increased body mass index, which were also linked to HF development.

These findings indicate that markers of structural heart disease are sometimes present prior to the clinical diagnosis of HF. Therefore, it is of the utmost importance to identify and screen the at-risk subpopulation using routine imaging tests performed in AF patients, enabling the early detection of clinical signs and symptoms of HF. This early identification could facilitate the prompt initiation of specific pharmacological therapies in this frail population, as recommended by current guidelines.⁵ Additionally, the salient role of body mass index in the development of HF after AF diagnosis and the impact of weight loss in improved AF outcomes⁶ could pave the way to initiation of weight-reduction drugs to quickly and effectively try to protect a large population of overweight AF patients from developing HF.

In addition to the classical risk factors for HF onset, such as obesity, renal dysfunction, and chronic obstructive pulmonary disease, the study emphasizes that the lack of a rhythm control strategy (ie, permanent AF) and LA enlargement—a morphological feature of advanced atrial cardiomyopathy⁷—are independently associated with the occurrence of HF. While the prevalence of permanent AF among many patients could be considered a

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* Corresponding author.

E-mail address: aportas@clinic.cat (A. Porta-Sánchez).✉ @aportasanchez @guichard_jb @hospitalclinic @arritmies<https://doi.org/10.1016/j.rec.2023.07.005>

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limitation of the study, it emphasizes the vital importance of implementing an appropriate and rigorous therapeutic approach to managing AF in the elderly. Such an approach has been demonstrated to improve mortality rates significantly.⁸

This study reveals the challenges of implementing an effective and feasible rhythm control strategy in the aging population. While the specific use of catheter ablation in this cohort is not reported and was probably very low due to the patients' age, it appears that a rhythm control strategy is a very unlikely option for this frail population, as only 4.7% of the cohort received antiarrhythmic drugs. This highlights the dilemma between the potential benefits of a rhythm control strategy in preventing HF onset, even in patients with asymptomatic AF, as suggested by the authors, and the specific difficulties in managing rhythm control therapies in the elderly. Many studies have shown the superiority of catheter ablation vs antiarrhythmic drugs after a diagnosis of AF⁹ and the ability of such an interventional strategy to avoid progression of AF to more advanced forms of arrhythmia.¹⁰ However, in those studies, the mean age at inclusion was much younger. The optimal approach to restoring and maintaining sinus rhythm in the elderly remains unclear but the benefits of a rhythm control strategy have been suggested even when initial symptoms may be mild and affect a cohort aged 75 years or older.⁸

It should also be recognized that there are some controversies in the literature.¹¹ Some observational studies have shown similar efficacy but a higher rate of procedure-related complications in older vs younger patients when an invasive management of AF is provided,¹² particularly in patients with increased frailty and/or cognitive decline. Additionally, the use of antiarrhythmic agents in this population is not straightforward due to their adverse effects. This could explain, on top of the results of the AFFIRM trial highlighting the lack of superiority and potential harm of a rhythm control strategy,¹³ why such a large proportion of patients had permanent AF at inclusion and illustrates the course of the atrial disease when not treated in a timely fashion years before. The study also points to the likely classification of the AF as "asymptomatic" at the time of diagnosis.

The suboptimal rate control strategy in the cohort is also a cause for concern, as less than half of the patients received a rate control agent, and there is evidence that uncontrolled ventricular response in AF can worsen both systolic and diastolic LV function, as well as contribute to atrial remodeling.¹⁴ While not directly associated with HF onset in elderly patients with AF, it is clinically relevant to note the suboptimal prescription rate of anticoagulant therapy in this population at high risk for stroke, with an approximately 80% prescription rate, given their CHA₂DS₂-VASC score of 2 or higher. The low rate of prescription of direct oral anticoagulants in this population could be attributed to a reluctance to prescribe these agents in frail individuals, despite their lower risk of embolism and bleeding compared with vitamin K antagonists¹⁵ or to economic constraints of the health care system.

Overall, this study points to a far-from-perfect—but realistic—management of AF in the elderly and a clear tendency, probably pernicious, to accept AF as inevitable, which may play a crucial role in the onset of HF during follow-up.

To properly extrapolate the results of the study, it is important to address the limitations associated with its retrospective cohort design. The study included all patients with AF from the CardioCHUVI-AF registry (NCT04364516) older than 80 years. As a result, the cohort did not investigate a population with newly diagnosed AF, and the time from onset of arrhythmia was not reported, leading to a potential selection and survival bias. Additionally, the retrospective design of the study introduces the possibility of recall bias,¹⁶ and it cannot be excluded that some patients had HF prior to their inclusion in the study. Furthermore,

the diagnosis of HF associated with preserved ejection fraction was established without using N-terminal pro-B-type natriuretic peptide testing or systematic assessment of objective signs of congestion, which may introduce a measurement bias.

In summary, the study by Melendo-Viu et al. shows that it could be beneficial to have a dedicated and rigorous approach to managing AF in the elderly to prevent HF, which is a common condition associated with increased mortality.² It is crucial to detect important warning signs of a high risk of HF after the first diagnosis of AF. These signs should be used to identify the highest risk patients who may benefit from more interventional treatments and evidence-proven attempts to modify the disease course and restore a normal rhythm. Whether this could translate into improved clinical outcomes is open to debate as no data are currently available. By focusing on these aspects, health care professionals could help improve outcomes and reduce the risk of HF in elderly patients with AF.

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CONFLICTS OF INTEREST

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