LETTERS TO THE EDITOR

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Letter to the editor—pREVEntion and regReSsive Effect of weight-loss and risk factor modification on Atrial Fibrillation: the REVERSE-AF study

We read with interest the article by Middeldorp *et al.* 'PREVEntion and regReSsive Effect of weight-loss and risk factor modification on Atrial Fibrillation: the REVERSE-AF study'.[1] The main findings suggest a strong relationship between obesity and progression of atrial fibrillation, and highlight the potential for this disease process to be reversed with successful weight-loss management.

The relationship of obesity and atrial fibrillation is an intuitive concept that has been communicated to patients for many years. Indeed, the excellent LEGACY[2] study from the same group demonstrated a dose-dependent effect of weight loss on overall long-term freedom of atrial fibrillation. The current findings suggest a new narrative that may offer hope to patients by providing them with the ability to regress their own illness.

Given the inherent limitations of quantifying atrial fibrillation burden using intermittent ambulatory monitoring, the authors relied on a composite primary endpoint encompassing patient symptoms, 7-day Holter monitoring, electrocardiogram, or implantable devices for atrial fibrillation classification. However, it is well recognized a large proportion of patients report atrial fibrillation symptoms when not in a device confirmed episode of atrial fibrillation.[3]

We would, therefore, welcome with interest the results of a subgroup analysis using only the results obtained from ambulatory and invasive monitoring to ascertain if the weight loss had a significant effect on measurable atrial fibrillation, or if the primary benefit witnessed in this study is due to an overall improvement in patient reported well-being from a successful weight-loss programme.

Conflict of interest: none declared.

References

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PREVEntion and regReSsive Effect of weight-loss and risk factor modification on Atrial Fibrillation: the REVERSE-AF study—Authors' reply

We thank O'Hare *et al.*[1] for the interest and overview they have provided of the REVERSE-AF (PREVEntion and regReSsive Effect of weight-loss and risk factor modification on Atrial Fibrillation) study. This study highlights the impact of dedicated risk factor modification and targeted weight loss on the natural course of atrial fibrillation (AF) and its ability to reverse the type of AF.[2]

It is stated that one of the limitations of quantifying AF burden was the use of 7-day Holter monitoring, ECG, or implantable devices. Although this may be a limitation, it is one that is familiar for many of the large studies to date which report AF burden in the same manner. It is worth noting that the same monitoring was used in all groups thereby reducing the risks of selection or reporting biases. Importantly, these findings are not isolated to our observational series,[3–5] but was also seen in our randomized controlled study.[6]

Although the ideal scenario may be to use implantable devices in all patients to therefore maximize the ability to capture episodes of AF, this method is both costly and invasive, therefore restricting the use of these devices. These devices are not without some inherent limitations. The algorithm used by these devices is based primarily on the R-R interval regularity for AF detection. This can result in under sensing of beats, oversensing of irregular atrial and ventricular premature beats and due to the memory can be filled electrograms may be deleted and not retrievable.[7] With improvement over time in technology these limitations may be reduced.

Additionally, one of the key purposes for AF management is that of symptom control. As seen in the ARREST-AF cohort study, risk factor management and weight loss not only reduced symptoms but also the requirement for undertaking AF ablation.[4]

Finally, it is with anticipation that we also await the results of further studies in which long-term ambulatory and invasive monitoring is being used (ACTRN12613000444785). This will further our understanding and provide the ability to corroborate the patient symptoms to the burden and rule out asymptomatic AF. Additionally, the ability to undertake mapping of the atria to characterize substrate changes will also provide insight in the role of reversal of the AF substrate.

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