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LETTER TO THE EDITOR OPEN ACCESS

Long-Term Cardiac Outcomes Following Renal Denervation: A Need for Imaging-Based Evidence

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Dear Editor,

We read with interest the article by Sesa-Ashton et al., which examined electrocardiographic changes in left ventricular mass index (LVMI) and atrial fibrillation (AF) incidence over more than 8 years of follow-up after renal denervation (RDN) [1]. The study demonstrated no significant alterations in ECG-derived LVMI or AF burden, though reductions in ambulatory blood pressure were correlated with modest improvements in LVMI. These findings are notable; however, several considerations warrant further reflection.

The reliance on electrocardiographic criteria, such as Cornell voltage indices, may limit the capacity to detect subtle or progressive structural cardiac changes. Previous research has shown that echocardiography and especially cardiac magnetic resonance imaging (CMR) provide superior accuracy in identifying left ventricular remodeling, often capturing changes missed by voltage-based criteria [2]. The absence of these imaging modalities may therefore explain the lack of significant long-term differences in LVMI observed in the study.

The relatively small cohort size and absence of a comparator group further constrain interpretation of the results. Larger randomized and sham-controlled trials have consistently demonstrated reductions in blood pressure with RDN and, in some cases, improvements in cardiac structure [3]. Without a control group, it remains difficult to distinguish whether the stability in LVMI represents a true absence of effect or methodological limitation.

An additional point relates to AF outcomes. Given the advancing age of the cohort, an increase in AF incidence might have been expected. The stability reported could reflect a potential benefit of RDN in attenuating sympathetic drive. Nonetheless, evidence from randomized studies indicates that RDN may reduce AF recurrence when combined with pulmonary vein isolation in selected patients, underscoring the importance of patient characteristics and disease stage in determining outcomes [4].

Future studies should build on these findings by employing imaging-based endpoints, enrolling larger and more diverse populations, and stratifying participants according to baseline cardiac remodeling. Such approaches could clarify whether RDN provides sustained cardioprotective effects beyond blood pressure control. The work of Sesa-Ashton et al. makes a valuable contribution to the field, yet further rigorous investigations are necessary to fully establish the long-term cardiac implications of RDN [5].

Sincerely,

Author Contributions

All of the authors contributed to planning, writing, and revision.

Ethics Statement

Not appliable.

Consent

Not appliable.

Permission to Reproduce Material From Other Sources

Not appliable.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

No new data was generated or analyzed in support of this letter to the editor.

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