Response to Catheter-Based Renal Nerve Ablation and Centrally Generated Sympathetic Activity in Difficult-to-Control Hypertensive Patients

Drs Vink and Blankestijn\(^1\) suggest that patients before and after renal nerve ablation should have been investigated off antihypertensive medications or on a standardized treatment regimen. For studies on human physiology, highly standardized conditions are desirable. However, our goal was studying influences of renal nerve ablation on sympathetic nervous system regulation in a clinical setting. Indeed, patients in previous renal nerve ablation trials were on multiple medications. Drug withdrawal is difficult to justify in these patients given their high cardiovascular risk. Obviously, we cannot completely rule out that patients did not adhere to the prescribed treatment.

We strongly disagree with the comment that our data do not allow for any conclusion. Antihypertensive drugs do not completely obscure sympatholytic responses to device-based therapies. Schlaich et al\(^2\) observed massive reductions in muscle sympathetic nerve activity in 1 patient after renal nerve ablation. The patient was on 7 antihypertensive drugs. Moreover, electrical carotid sinus stimulation lowers sympathetic nerve traffic in patients on multiple antihypertensive drugs of different classes including central sympatholytics.\(^3\) The Figure shows reproducible reductions in muscle sympathetic nerve activity with electrical carotid sinus stimulation in a 43-year-old hypertensive women on 9 antihypertensive drugs including 375 µg of clonidine per day. Therefore, our study strongly suggests that profound sympathetic inhibition is not a typical response to renal nerve ablation in patients with treatment-resistant hypertension.

Disclosures

None.

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Figure. Electrocardiogram (ECG), finger blood pressure (FBP), and muscle sympathetic nerve activity (MSNA) responses to repeated electrical carotid sinus stimulation in a treatment-resistant patient on multiple antihypertensive medications including clonidine.
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In the Hypertension article by Heusser et al (Heusser K, Tank J, Jordan J. Response to Catheter-Based Renal Nerve Ablation and Centrally Generated Sympathetic Activity in Difficult-to-Control Hypertensive Patients. Hypertension. 2013;61:e9), a correction was needed.

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This correction has been made to the current online version of the article, which is available at http://hyper.ahajournals.org/content/61/2/e9.full.