Response to More Research Is Needed to Investigate the Effect of Denervation on Blood Pressure

Dr Wang1 calls for more research to investigate the blood pressure (BP)-lowering effects of renal denervation (RDN), and we agree with this recommendation. We clearly stated the need for additional randomized, controlled, clinical trials throughout our article.2

Dr Wang1 states that our article did not cite some studies that did not report a decrease in BP after RDN. Our article was not intended as an in-depth review of the available data on RDN but rather was an attempt to highlight the major unresolved questions about the procedure that need to be addressed in the near future. As pointed out by Dr Wang1 himself, 2 of the small studies he referred to that did not show a clear-cut BP response to RDN included ≤10 patients from single centers. Those results have to be weighed against a total of 259 patients included in the SYMPLICITY HTN-1 and HTN-2 studies, with follow-up as long as 3 years. Calculating responder rates and expressing them as a percentage in patient groups of <10 seems questionable to say the least. The recent report by Persu et al3 was not published at the time of submission of our article. This study, labeled a subject-level meta-analysis, included 109 patients with resistant hypertension recruited from 10 European centers that each applied different recruitment criteria and included data from patients treated with various RDN devices. Nevertheless, the reported response rate, defined as systolic BP reduction ≥10 mm Hg, was 72% in patients with baseline office systolic BP ≥160 mm Hg. Although this response rate is lower than the 84% reported in similar patients in SYMPLICITY HTN-2, it is still remarkable.

Although the Witkowski study did not report a significant reduction in ambulatory BP despite a reduction in office BP after RDN, that study only included 10 patients. Figure 3 in our article shows significant reductions in both office and ambulatory BP in 303 patients with true resistant hypertension. The need for more data on ambulatory BP changes after RDN and the less pronounced effect of RDN on ambulatory compared with office BP are discussed in detail in our article and have recently been reviewed by others.4

Data from the randomized controlled SYMPLICITY HTN-3 trial1 that includes a sham procedure and mandates ambulatory BP recordings are expected to be reported in March 2014 and will undoubtedly shed light on many of the areas discussed above.

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1. Wang Y. More research is needed to investigate the effect of denervation on blood pressure. Hypertension. 2014;63:e86.
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