

## HYPERTENSION

**Further EnligHTNment on renal sympathetic denervation**

Stephen Worthley and colleagues point out that “the single electrode radiofrequency catheter system that has been widely used for [renal sympathetic denervation (RDN)] has the disadvantage of requiring the operator to manipulate the catheter within the renal artery lumen multiple times to achieve a series of lesions”. By contrast, “a multielectrode radiofrequency system ... reduces the amount of catheter manipulation ... and thus reduces the risk of procedure-related renal artery injury”. Results of their first-in-human EnligHTN I trial, in which they assessed the safety and efficacy of a multielectrode system for RDN in 46 patients with drug-resistant hypertension, have been published.

The EnligHTN® (St Jude Medical, MN, USA) multielectrode RDN system was used in the prospective, multicentre, nonrandomized trial. No serious periprocedural events occurred. Serious adverse events over 6-month follow-up—the primary safety outcome—occurred in three patients. One experienced hypotension;

progression of pre-existing renal artery stenosis and of hypertensive renal disease were also reported. At 6 months, office blood pressure (BP)—the primary efficacy outcome—and ambulatory BP were significantly reduced by a mean of 26/10 mmHg and 10/6 mmHg, respectively.

Another study of RDN has demonstrated the importance of establishing that patients' hypertension is uncontrolled in both the clinic and over a 24 h period, rather than being an effect seen only in the clinic. Effects of RDN were assessed for 303 patients with ‘true resistant’ hypertension (office systolic BP  $172.2 \pm 22.0$  mmHg; mean ambulatory BP  $154.0 \pm 16.2$  mmHg) and 43 individuals with ‘pseudo-resistant’ hypertension (office systolic BP  $161.2 \pm 20.3$  mmHg; mean ambulatory BP  $121.1 \pm 19.6$  mmHg). Whereas RDN was associated with reductions in both office and ambulatory BP in the patients with ‘true resistant’ hypertension, reductions were noted only in office BP for individuals deemed to have ‘pseudo-resistant’ hypertension.

Felix Mahfoud and colleagues point out that their “findings are in line with recent recommendations of several national and international societies ... aimed at avoiding to treat patients with RDN if only office BP, but not ambulatory BP, is elevated”. However, they highlight that “pseudo-resistant hypertension is a risk indicator of sustained hypertension and is associated with an increased risk for cardiovascular end points”, and write that “further investigations are deserved to assess the effects of office BP reductions by RDN on cardiovascular morbidity, mortality, and the development of sustained hypertension in [these] patients”.

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**Original articles** Worthley, S. G. *et al.* Safety and efficacy of a multi-electrode renal sympathetic denervation system in resistant hypertension: the EnligHTN I trial. *Eur. Heart J.* doi:10.1093/eurheartj/ehs1197 | Mahfoud, F. *et al.* Ambulatory blood pressure changes after renal sympathetic denervation in patients with resistant hypertension. *Circulation* doi:10.1161/CIRCULATIONAHA.112.000949