

## Letter to the Editor

## Renal Denervation: The Irish Experience

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**P**ercutaneous renal artery sympathetic denervation (RSD) has been recently introduced as an alternative therapeutic approach for patients with resistant hypertension (HTN).<sup>1</sup> Although the studies published to date have several limitations,<sup>2,3,4</sup> the lack of major side effects, the levels of blood pressure (BP) reduction, and the uncomplicated character of the procedure<sup>5</sup> raise the possibility of a new era in the treatment of resistant hypertension.

In Galway University Hospital (GUH), Ireland, from 2011 to date we have performed RSD in 31 patients, who were screened for secondary hypertension and fulfilled the criteria for resistant HTN. Written consent was obtained, while the protocol was approved by the Hospitals Ethics Committee. Thirty were Caucasian and 1 patient was of African origin. Mean age was 45 years and standard deviation was 4.5 years. Before RSD, mean office systolic blood pressure (SBP) and diastolic blood pressure (DBP) were 165 mmHg and 93 mmHg, respectively, while mean 24h SBP and DBP were 150 mmHg and 87 mmHg respectively. All procedures were done via femoral arterial access with a 6 French sheath, and the average procedure time was 66 minutes. An average of 6.2 ablations were performed in each renal artery. Of the 31 patients who underwent RSD, 24 have completed 6-month follow up.

Follow-up studies revealed that the mean office BP had reduced to 159 mmHg systolic and 88 mmHg diastolic ( $p < 0.03$ ) (Table 1), while 24h BP had decreased to 146 mmHg systolic and 83 mmHg diastolic ( $p < 0.003$ ) (Figure 1). These changes were independent of age, sex, renal function, body mass index (BMI), and lipid profile. There was no significant change in the average number of antihypertensive medications per patient ( $p = \text{NS}$ ). Finally, there was no significant change in serum creatinine levels at 6 months (91 vs. 86 mg/dL,  $p = \text{NS}$ ). There were no major complications during or after the procedure.

RSD has emerged as a novel modality in the treatment of resistant HTN.<sup>6,7</sup> Limitations were pointed out in the previous studies regarding the selection of the patients.<sup>8</sup> In our study, 24h arterial BP monitoring was performed prior to the procedure; thus white-coat HTN and masked HTN were excluded. All patients were screened for causes of secondary HTN.

Although 6 months' follow up may be considered as a short timeframe from which to draw conclusions, there is clear evidence of significant BP improvement. These changes appear to be independent of potential confounders. We intend to evaluate the blood pressure response further at 1 year and 2 years post-procedure in order to clarify whether the observed benefits persist over time.

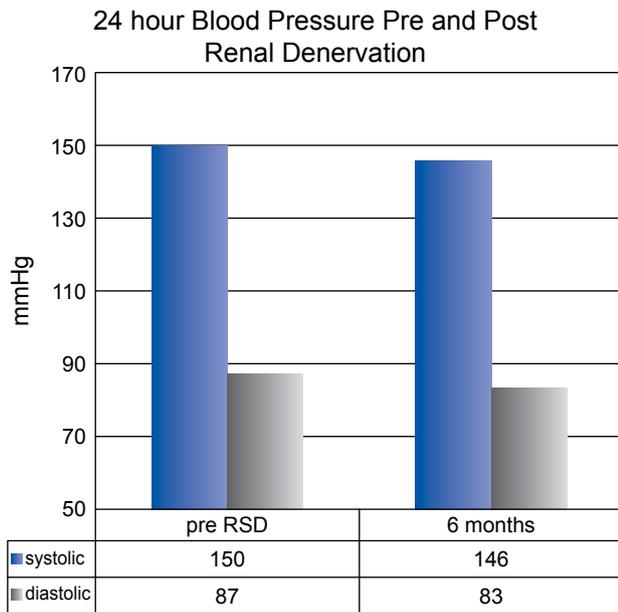
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**Table 1.** Blood pressure change pre and 6 months post renal sympathetic denervation (RSD)

	Pre RSD	6 months post	p
Office systolic BP (mmHg)	165	159	0.03
Office diastolic BP (mmHg)	93	88	0.03
24-hour systolic BP (mmHg)	150	146	0.003
24-hour diastolic BP (mmHg)	87	83	0.003
Serum creatinine (mg/dL)	91	86	NS

**Figure 1.** Schematic presentation of the changes in 24h ambulatory blood pressure monitoring after renal sympathetic denervation (RSD).

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