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Prevention

LONG-TERM FOLLOW-UP OF CATHETER-BASED RENAL SYMPATHETIC DENERVATION FOR RESISTANT HYPERTENSION CONFIRMS DURABLE BLOOD PRESSURE REDUCTION

ACC Oral Contributions

McCormick Place North, N228

Sunday, March 25, 2012, 10:45 a.m.-11:00 a.m.

Session Title: Prevention: Renal Sympathetic Denervation - A Novel Therapy for Hypertension?

Abstract Category: 7. Prevention: Hypertension

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Background: We have recently reported substantial reductions in blood pressure (BP) out to 2 years with renal sympathetic denervation (RDN) in patients with resistant hypertension. However, only a small number of those patients had been followed for 2 years; this report greatly expands the number of patients who reached this timepoint.

Methods: Symplicity HTN-I was an open-label cohort study which enrolled 153 patients at sites in Australia, Europe and the United States. Patients were required to have systolic BP ≥ 160 mm Hg despite at least 3 antihypertensive drugs, including a diuretic, at target or maximal tolerated doses. Patients with an estimated glomerular filtration rate < 45 mL/min or type 1 diabetes mellitus were excluded.

Results: Baseline age was 57 ± 11 years, 39% of patients were female, 31% had type 2 diabetes mellitus, eGFR was 83 ± 20 mL/min, heart rate was 73 ± 13 bpm and BP was $176/98 \pm 17/15$ mmHg, despite use of an average of 5 antihypertensive medications. Change in BP out to 24 months post-RDN procedure is shown in the Table. Additional 30 and 36 month data will be presented. One case of renal artery stenosis was reported at 12 months.

Conclusions: BP progressively declines over 2 years in this much larger current cohort of Symplicity HTN-I patients reaching this timepoint. These findings suggest that functional re-innervation is unlikely to be occurring, at least out to 2 years post-RDN procedure.

	Change in Systolic BP (mm Hg) (95% CI)	P-value*	Change in Diastolic BP (mm Hg) (95% CI)	P-value*
1 Month (n=141)	-19 (-22.1, -15.9)	<0.01	-10 (-12.0, -8.0)	<0.01
3 Months (n=145)	-22 (-25.4, -18.6)	<0.01	-11 (-13.2, -8.8)	<0.01
6 Months (n=139)	-21 (-25.9, -16.1)	<0.01	-9 (-12.1, -5.9)	<0.01
9 Months (n=90)	-23 (-27.8, -18.2)	<0.01	-12 (-14.8, -9.2)	<0.01
12 Months (n=132)	-27 (-30.7, -23.3)	<0.01	-13 (-15.4, -10.6)	<0.01
18 Months (n=58)	-26 (-31.2, -20.8)	<0.01	-13 (-16.2, -9.8)	<0.01
24 Months (n=44)	-31 (-36.3, -25.7)	<0.01	-16 (-20.4, -11.6)	<0.01