

Catheter-Based Renal sympathetic Denervation (RDN) for Treatment of Resistant Hypertension : Initial Experience

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Background: Based on Semplicity-1 and Semplicity-2 (HTN-1, HTN-2) studies ,catheter-based Renal sympathetic Denervation Treatment (RDN) is proved as an effective and safe treatment for resistant hypertension.

Aim: To evaluate the early and late effects of RDN on BP in patients with resistant HTN in our initial experience

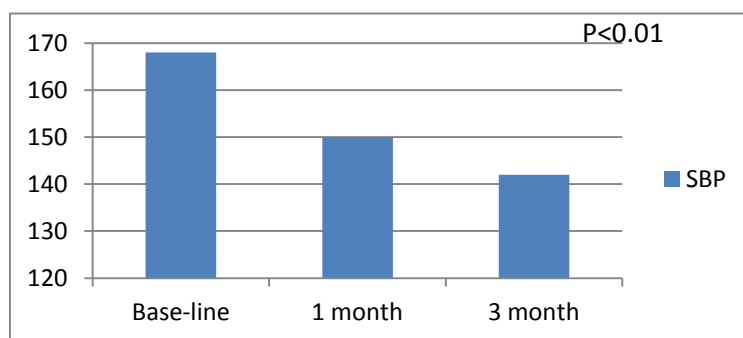
Methods : Eleven patients with resistant HTN were treated by RDN. Inclusion Criteria: Based on population selection in the HTN-1, HTN-2 studies ,Office SBP \geq 160 mmHg (\geq 150 mmHg with type II diabetes mellitus-DM), Stable drug regimen of 3+ more anti-HTN medications ,Age above 18years, Renal artery \geq 4 mm in diameter and \geq 20 mm length and eGFR of \geq 45. Exclusion Criteria: Significant renal artery abnormalities, Type 1 diabetes mellitus, Stenotic valvular heart disease, and MI, unstable angina, or CVA in the prior 6 months, ICD or pacemaker, Pregnant, nursing or planning to be pregnant

Results: Eleven patients 7 males 4 & females, age 47-67 (median: 63) years, 3 with II-DM, 5 with hyperlipidemia, 4 smokers, 4 with CAD and 1 with PVD ,eGFR 89 (\pm 25). Mean number of antihypertension medications was 3.75, all on diuretics. All on ACEI and/or ARB, 8 on Beta blockers, 7 on Ca Channel Blockers and 2 on normopressan. RDN was successfully done in 10, in one patient RDN catheter could not be introduced due to unfavorable vascular anatomy.

Procedure Detail & Safety: RDN procedure time was 70-120 (median 87) minutes, 100-200ml 1:2 diluted contrast, 5-7 ablations per artery were done. Intravenous narcotics & sedatives used to manage pain during delivery of RF energy. RDN was completed successfully in all 10 patients. No catheter or generator malfunctions, no vascular abnormalities at any site of RF delivery .No early or late major or minor complication, No electrolyte disturbances or change in renal function.

Baseline BP was 168 (\pm 21)/84 (\pm 9) decreased to 150 (\pm 13)/81(\pm 6) and 142 (\pm 12)/76 (\pm 9), one and 3 months after RDN, respectively.

Systolic BP



Time after RDN

Conclusions: Catheter-based renal denervation was done successfully in 10 patients with treatment-resistant essential hypertension, resulted in significant reductions in BP .

The technique was applied without minor or major complications.