

**Renal Sympathetic Denervation for The Treatment of Resistant Hypertension.
Office Blood Pressure Versus Three Months Ambulatory Blood Pressure Reduction**

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Introduction:

Catheter based renal denervation has been shown to induce substantial reduction in blood pressure as measured in the office. Ambulatory blood pressure (ABP) monitoring is being increasingly recommended to rule out "white coat hypertension" and is considered a better predictor of cardiovascular risk than office blood pressure. The aim of this study was to compare the degree of blood pressure reduction measured in the office to ambulatory blood pressure measurement.

Methods and results:

Twenty two patients underwent the procedure between July 2011 and May 2012. Mean (\pm SD) office blood pressure was 184/88 \pm 19/14 mmHg and mean ambulatory blood pressure (ABP) was 161/85 \pm 16/11 mmHg. Mean Number of antihypertensive medications was 4 \pm 2. Creatinine level was 87 \pm 26 μ mol/l and GFR 75 \pm 23ml/min. The procedure was performed via the femoral artery. Between five to seven low power radiofrequency ablations were applied along the length of both renal arteries using the simplicity® catheter by Medtronic according to the instructions of the manufacturer. No complications were recorded during or after the procedure.

Mean office blood pressure one and three months post procedure were 160/78 \pm 26/14 (p <0.001) and 156/85 \pm 23/7 mmHg (p <0.001), respectively. Baseline and three months ambulatory blood pressure measurement was available for eleven of these patients. These patients had significant office blood pressure reduction from 178/85 \pm 21/9 to 158/76 \pm 19/8 mmHg (p <0.001). Baseline ABP for these patients was 155/79 \pm 14/7. Three months mean ABP was 151/76 \pm 17/8 mmHg, a reduction of 4/2 \pm 10/4 (p =0.19 and p =0.2 for systolic and diastolic BP, respectively).

Conclusions:

In our cohort, we found that catheter based renal denervation results in a substantial one and three month's office blood pressure reduction without adverse events. Ambulatory blood pressure measurement also showed a trend towards blood pressure reduction although to a smaller degree.