Catheter-based Renal Denervation with the Vessix System: a Comparison

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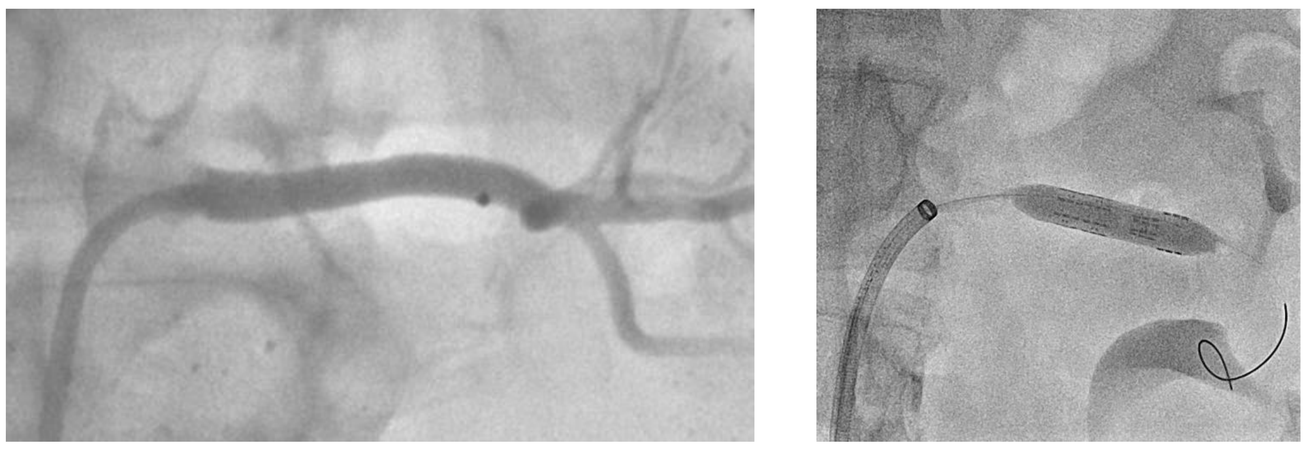
Background:
Catheter-based Renal Denervation has become an acknowledged treatment option for therapy- resistant hypertension. New denervation devices such as the Vessix V2 System use a balloon catheter with integrated electrodes. Aim of this study was to compare the Vessix V2 System with the established Symplicity System regarding systolic blood pressure (BP) reduction as well as the safety and effectiveness of the new device.

Methods:
15 consecutive patients denervated with the Vessix V2 System and 28 consecutive patients who participated in the Symplicity HTN 1 and HTN 2 trials were included. Primary endpoint was the office systolic BP reduction at 3- and 6 months and the ambulatory systolic BP at 6 months.



The Symplicity (left) and the Vessix Catheter (right), each launched in the left renal artery

Group	Mean Age [years]	Male [%]	Diabetes mellitus [%]	Number of antihypertensives
Vessix	62.4 ± 8	60	40	5.4 ± 1.6
Symplicity	67.9 ± 9	64	33	5.8 ± 1.5

Results:
Vessix group: Ablations averaged 1.7±0.5 on each side. The baseline office BP decreased from 172/90mmHg to 154/91mmHg at 3- (p= 0.0057 for systolic BP difference) and 156/89mmHg at 6- month follow-up (p= 0.0094). The ambulatory BP decreased from 156/86mmHg at baseline to 145/82mmHg at 6- month follow-up (p= 0.133; n= 14).
Symplicity group: Mean number of ablations was 6±1.3 on the right side and 5.4±1.3 on the left side. Office BP changed from baseline 166/85mmHg to 150/80mmHg (p= 0.0002) at 3-month and 150/79mmHg at 6- month follow-up (p< 0.0001). Ambulatory BP was 152/81mmHg at baseline and 151/82mmHg at 6- month follow-up (p= 0.698).
There was no significant differences in 3- and 6- month office BP reductions at follow-up between both groups(p= 0.430 after 3 months and p= 0.352 after 6 months). There was a tendency towards a more pronounced reduction in ambulatory BP for the Vessix group (p= 0.196).

Conclusion:
The office BP reduction was comparable for both systems after 6 months. We can see a tendency to a more pronounced ambulatory BP reduction in the Vessix group. This observation may be related to the devices used or the difference in baseline BP.