

Data Abstraction – Intervention Form

Refid: 2. Effects of renal sympathetic denervation on cardiac sympathetic activity and function in patients with therapy resistant hypertension P. M. van Brussel, D. W. Eeftinck Schattenkerk, L. C. Dobrowolski, R. J. de Winter, J. A. Reekers, H. J. Verberne, L. Vogt and B. H. van den Born

Attachments

PDF - 2 van Brussel, 2015.pdf ([Standard Version](#)) | ([Annotatable Version](#))

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BACKGROUND: Renal sympathetic denervation (RSD) is currently being investigated in multiple studies of sympathetically driven cardiovascular diseases such as heart failure and arrhythmias. Our aim was to assess systemic and cardiac sympatholytic effects of RSD by the measurement of cardiac sympathetic activity and cardiovascular parameters.

METHODS: A total of 21 consecutive patients with refractory hypertension (daytime ambulatory blood pressure (BP) $\geq 150/100$ mmHg despite the use of 3 or more antihypertensive drugs), no evidence for secondary hypertension and normal renovascular anatomy were included. RSD was performed with the Medtronic Symplicity renal denervation catheter with an average of 4.2 (range 3-6) ablations per renal artery. To assess cardiac sympathetic activity, 123I-mIBG cardiac scintigraphy was performed before and 6weeks after. In addition, the effect of RSD on peripheral BP and cardiac hemodynamics were assessed non-invasively.

RESULTS: 123I-mIBG uptake before and after RSD was $1.7 \pm 0.4\%$ vs. $1.7 \pm 0.5\%$ at 15min, and $1.4 \pm 0.4\%$ vs. $1.5 \pm 0.5\%$ after 4h. As a consequence, washout rate was similar before ($33.7 \pm 11.7\%$) and after RSD ($30.1 \pm 12.6\%$, $p=0.27$). In line with earlier RSD studies, a significant drop in systolic office BP (-12.2 mmHg, $p=0.04$) was detected, whereas the decrease in ambulatory BP was not significant. No changes were seen in heart rate, stroke volume or left ventricular contractility, both in supine position and after standing.

CONCLUSION: In concert with previous reports, RSD leads to a significant drop in office BP. However, a reduction in sympathetic activity could not be demonstrated on a cardiac level.

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Renal Denervation
Intervention Form

Complete one form per intervention group.

1. Specify the intervention for this form. The renal denervation arm will be the main intervention.

Select an Answer

2. What was the intervention for this group? (check all that apply)

Renal denervation

Sham procedure

Continuation of anti-hypertensive drugs

Other control group (specify)

[Permanently add an answer to this question](#)

3. What was the manufacturer and device for renal denervation?

Select an Answer

Select an Answer

Select an Answer

6. Who performed the procedure? (check all that apply)

Interventional cardiologist

Interventional radiologist

Vascular surgeon

Other (specify)

Not specified

7. Was there any training to perform the procedure? (check all that apply)

- Yes, simulation training
- Yes, animal model training
- Yes, prior experience
- Yes, but type of training was not specified
- Yes, other training (specify)
- No training
- Not reported

8. Was medication up titration allowed in the RDN arm?

Select an Answer ▼

9. What percent of patients did not receive their assigned treatment?

Select an Answer ▼

10. Comments (limit 250 characters)

11. Comments (limit 250 characters)

12. Comments (limit 250 characters)

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