Global Clinical Study of Renal Denervation in the distal main and first order branch renal arteries using the Symplicity SpyralTM multi-electrode renal denervation system (SPYRAL DYSTAL)

Published: 29-04-2020
Last updated: 08-04-2024

The objective of this single arm interventional study is to determine if renal denervation performed in the distal main and first order branch renal arteries is as effective in reducing blood pressure as the procedural approach used in the SPYRAL...

Ethical review	Not approved
Status	Will not start
Health condition type	Vascular hypertensive disorders
Study type	Interventional

Summary

ID

NL-OMON50148

Source
ToetsingOnline

Brief title
SPYRAL DYSTAL

Condition

- Vascular hypertensive disorders

Synonym
uncontrolled hypertension

Research involving

Human

Sponsors and support

Primary sponsor: Medtronic Trading NL BV
Source(s) of monetary or material Support: Medtronic

Intervention

Keyword: Renal artery, Renal denervation, Uncontrolled Hypertension

Outcome measures

Primary outcome

Efficacy endpoints

The efficacy endpoints will be compared to the SPYRAL HTN-OFF MED efficacy endpoints using a propensity score stratified analysis at 3 months. At 6 months and 12 months, the endpoints will be analyzed within the SPYRAL DYSTAL study only.

* Change in systolic blood pressure (SBP) from baseline (Screening Visit 2) to 3, 6 and 12 months post-procedure as measured by 24-hour Ambulatory Blood Pressure Monitoring (ABPM).

* Change in office SBP from baseline (Screening Visit 2) to 3, 6, and 12 months post-procedure.

* Change in diastolic blood pressure (DBP) from baseline (Screening Visit 2) to 3, 6, and 12 months post-procedure as measured by 24-hour Ambulatory Blood Pressure Monitoring (ABPM).

* Change in office DBP from baseline (Screening Visit 2) to 3, 6, and 12 months post-procedure.

* Incidence of achieving target office SBP (SBP<140 mmHg) at 3, 6, and 12

months post-procedure.

* Comparison of the pattern of BP reduction over 24 hours of ABPM between this

study and the SPYRAL HTN-OFF MED study.

Secondary outcome

see above section

Study description

Background summary

Please see page 19 to 22 for the background of the study

Study objective

The objective of this single arm interventional study is to determine if renal denervation performed in the distal main and first order branch renal arteries is as effective in reducing blood pressure as the procedural approach used in the SPYRAL HTN-OFF MED clinical stu

Study design

Multi-center, international, prospective, interventional, single arm study enrolling approximately 50 subjects who will undergo the renal denervation procedure.

Intervention

See Table 1. Schedule of Treatments and Assessments CIP version 2.0

The SPYRAL DYSTAL study is a multi-center, international, prospective, interventional, single arm study designed to study renal denervation in the distal portion of the main renal arteries and first order branches. Denervation will be performed using the Symplicity Spyral* multi-electrode renal denervation catheter (Symplicity SpyralTM catheter) and the Symplicity G3TM renal denervation radio frequency (RF) generator in a hypertensive population. Subjects will be studied to assess the impact of this renal denervation approach on systolic and diastolic blood pressure.
The Symplicity SpyralTM catheter and Symplicity G3TM generator provide a spiral pattern of denervation, ensuring circumferential nerve ablation, which is

expected to minimize procedure variability. One Symplicity G3TM generator is intended to be used with a Symplicity SpyralTM catheter in enrolled subjects. Subjects will be studied in the absence of anti-hypertensive medications through the 3 months visit to assess the impact of renal denervation on blood pressure in the absence of medications.
Based on previous experience with the SPYRAL HTN-OFF MED study, it is anticipated that several subjects will no longer meet study eligibility during the screening period; therefore, approximately 350 subjects will be enrolled to ensure approximately 50 hypertensive subjects will undergo the renal denervation procedure at up to 10 sites. Once enrolled, subjects will undergo screening visits and if eligible, will undergo renal denervation and will be followed for 12 months post procedure. Follow-up visits will take place at discharge, 1, 2, 3, 4 (if applicable), 6 and 12 months (see table 1 for treatments and assessments that will occur at each visit). Upon completion of all follow-up visits, the subjects will be exited from the study. Subjects will be consented for a maximum follow-up of 5 years in case there are reasons that would require the follow-up to be extended beyond the currently planned 12 months follow-up.

Study burden and risks

Please see the Risk Benefit Analysis version 1.0, 9ddec2019 for more information

Contacts

Public
Medtronic Trading NL BV

Endepolsdomein 5
Maastricht 6229 GW
NL
Scientific
Medtronic Trading NL BV

Endepolsdomein 5
Maastricht 6229 GW
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

1. Individual is * 20 and * 80 years old at time of enrollment (consent).
2. Individual has an office systolic blood pressure (SBP) * 150 mmHg and < 180 mmHg and an office diastolic blood pressure (DBP) * 90 mmHg measured at Screening Visit 2, according to the guidelines in Appendix 16.5.
3. Individual has a valid 24-hour Ambulatory Blood Pressure Monitoring (ABPM) average SBP *140 mmHg and < 170 mmHg measured at Screening Visit 2, according to guidelines in Appendix 16.5
a) ABPM is considered valid if the number of successful daytime readings captured is * 21 and the number of successful nighttime readings captured *12.
4. Individual agrees to have all study procedures performed, and is competent and willing to provide written, informed consent to participate in this clinical study.
5. Individual is willing to discontinue current antihypertensive medications at Screening Visit 1 through the 3-month post-procedure visit.

Exclusion criteria

1. Individual has one or more of the following conditions: stable or unstable angina within 3 months of enrollment, myocardial infarction within 3 months of enrollment; heart failure, cerebrovascular accident or transient ischemic attack, or atrial fibrillation at any time. Patients are permitted to take aspirin or clopidogrel for cardiovascular risk reduction. Patients who received catheter or surgical treatment for Atrial Fibrillation and are in sinus rhythm are not excluded.
2. Individual has undergone prior renal denervation.
3. Individual has at least one main renal artery with a diameter of less than 3mm or greater than 8mm.
4. Presence of FMD (defined as visible beading of the artery on angiography).
5. Has >50% stenosis in any treatable vessel.
6. Has a renal artery stent placed <3 months prior to the denervation procedure.
7. Presence of a renal artery aneurysm defined as any localized increase in the

diameter of the vessel.
8. Disease not allowing any treatment in the main renal artery.
9. Individual has an estimated glomerular filtration rate (eGFR) of <45 mL/min/1.73m2, using the 4 variable MDRD calculation (in mL/min per 1.73 m2 = 175 x SerumCr-1.154 x age-0.203 x 1.212 (if patient is black) x 0.742 (if female).
10. Individual has documented type 1 diabetes mellitus or poorly-controlled type 2 diabetes mellitus with glycosylated hemoglobin greater than 8.0%. (If the glycosylated hemoglobin in the patient*s records is >3 months old (from the date of Screening Visit 2), or history of uncontrolled blood sugars raises concern, it is required to analyze glycosylated hemoglobin as part of Screening Visit 2 labs.)
11. Individual is taking SGLT2 inhibitor or GLP-1 agonists that have been prescribed <90 days prior to SV1 or who does not plan on remaining on these drugs for the duration of the trial.
12. Individual has had *1 episode(s) of orthostatic hypotension not related to medication changes within the past year or has a reduction of SBP *20 mmHg or DBP *10 mmHg within 3 minutes of standing coupled with symptoms during the screening process (at SV2).
13. Individual requires chronic oxygen support or mechanical ventilation other than nocturnal respiratory support for sleep apnea (e.g. CPAP, BiPAP).
14. Individual with a history of narcotic drug abuse, is currently on Methadone, or who has used narcotic drugs more than once in the month prior to Screening Visit 1.
15. Individual had documented primary pulmonary hypertension.
16. Individual has untreated secondary cause of hypertension (either known or suspected) or is taking drugs that increase sympathetic tone that could contribute to hypertension.
17. Individual has frequent intermittent or chronic pain that results in treatment with non-steroidal anti-inflammatory drugs (NSAIDs) for two or more days per week over the month prior to Screening Visit 2.
18. Individual with HIV on anti-retroviral drug therapy without documentation that hypertension preceded initiation of anti-retroviral drug treatment.
19. Individual has a scheduled or planned surgery that, in the opinion of the Investigator, may affect study endpoints.
20. Individual has a documented condition that would prohibit or interfere with ability to obtain an accurate blood pressure measurement using the protocol-specified automatic/office blood pressure monitor (e.g., upper arm circumference outside cuff size ranges available by geography or arrhythmia such as atrial fibrillation that interferes with automatic monitor*s pulse sensing and prohibits an accurate measurement).
21. Individual works night shifts.
22. Individual has severe cardiac valve stenosis for which, in the opinion of the investigator, a significant reduction of blood pressure is contraindicated.
23. Individual has a documented confounding medical condition, which in the opinion of the investigator, may adversely affect the safety of the participant (e.g. patients with clinically significant peripheral vascular disease, aortic

aneurysm, bleeding disorders such as thrombocytopenia, hemophilia, or significant anemia).
24. Individual is pregnant, nursing or planning to become pregnant during the course of the study follow-up. (Note: Pre-menopausal female participants must have a negative serum or urine human chorionic gonadotropin (hCG) pregnancy test prior to angiography).
25. Individual has a known unresolved history of drug use or alcohol dependency, lacks the ability to comprehend or follow instructions, or would be unlikely or unable, in the opinion of the investigator, to comply with study follow-up requirements.
26. Individual is currently enrolled in a concurrent investigational drug or device study, unless approved by the study sponsor. (Note: For the purpose of this protocol, participants involved in extended follow-up studies for products that were investigational but are currently commercially available are not considered enrolled in an investigational study).
27. Individual is currently taking anti-mineralocorticoid drugs. (Note: Subjects may be enrolled as long as anti-mineralocorticoid drugs are weaned off at least 8 weeks prior to Screening Visit 1).
28. Individual has an active peptic ulcer or gastrointestinal (GI) bleeding within the prior six months from consent.
29. Individual has a history of bleeding diathesis or coagulopathy or will refuse blood transfusions.
30. Individual has polycystic kidney disease, unilateral kidney, atrophic kidney, or history of renal transplant.

Study design

Design

Study type: Interventional

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Will not start
Enrollment:	10
Type:	Anticipated

Medical products/devices used

Generic name:	The Symplicity Spyral multi-electrode renal denervation catheter (Symplicity SpyralTM catheter) and
Registration:	Yes - CE intended use

Ethics review

Not approved

Date:	29-04-2020
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL72369.078.20