No registrations found.

Ethical review	Positive opinion
Status	Other
Health condition type	-
Study type	Interventional

Summary

Source

NTR

Brief title

CRESCENT

Health condition

therapy resistant hypertension, kidney allograft recipients.
(therapie resistente hypertensie, niertransplantatiepatienten)

Sponsors and support

Primary sponsor :	Academic Medical Center (AMC)
Source(s) of monetary or material Support :	Dutch Kidney Foundation (Nierstichting Nederland)

Intervention

Outcome measures

Primary outcome

Change in daytime ambulatory blood pressure after 6 months.

Secondary outcome

1. Change in measured creatinine clearance after 6 months;

2. Change in eGFR after 6 months.

Efficacy aspects:

1. Change in 123I-metaiodobenzylguanidine (123I-MIBG) uptake of native kidneys;

2. Change in systemic sympathetic activity and plasma rennin and aldosterone activity;

3. Change in number of antihypertensive drugs after 6 months;

4. Change in health related quality of life after six months;

5. Change in compliance to the use of anti-hypertensive medications after 6 months;

6. Change in proteinuria after 6 months.

Study description

Background summary

Rationale:

In patients with a renal allograft, hypertension is a major etiological factor for cardiovascular morbidity, mortality and allograft nephropathy. Controlling hypertension in patients with a renal allograft is therefore crucial. There is a pressing, yet currently unmet clinical need for new blood pressure lowering strategies in renal allograft recipients. The diseased native kidneys are major contributors to hypertension, through neuro-hormonal up-regulation that leads to high levels of renin and sympathetic activity. Recently a catheter-based approach has been developed to disrupt renal sympathetic nerves. Currently this innovative technique has only been tested to lower blood pressure in therapy resistant hypertensive patients without significant renal disease. We hypothesize that catheter based selective renal denervation of the native kidneys in renal transplant recipients will improve blood pressure control and diminish the number of antihypertensive drugs.

Objective:

To test the efficacy and safety of renal sympathetic denervation therapy as a treatment of posttransplant hypertension with a special focus on preservation of renal allograft function.

Study design:

We propose an intervention study on 20 renal transplant recipients. All patients will receive standard protocolized antihypertensive treatment prior to, and during the study. Patients will be followed for 6 months after the intervention.

Study population:

Inclusion criteria are a renal allograft in situ since > 6 months with a measured creatinine clearance >35 ml/min, and a diuresis > 200ml/day of the native kidneys at time of transplantation or radiological evidence of residual flow in the renal arteries indicating that they are accessible for the intervention and have a daytime blood pressure >140/90 mmHg (assessed by 24-hours ambulatory measurement) while on >3 antihypertensive medications in maximal tolerated dose, including a diuretic.

Intervention:

Prior to study-inclusion all patients will receive standard protocolized hypertension treatment based on the National Kidney Foundation Kidney Disease Quality Outcomes Quality Initiative guidelines (2004). Renal sympathetic denervation is achieved by the interventional radiologist percutaneously entering the lumen of the main renal artery of each of the native kidneys, with a catheter connected to a radiofrequency generator. He applies 6-8 radiofrequency ablations within each renal artery. The procedure is performed in an outpatient clinic setting and patients receive standard measures for prevention of contrast nephropathy.

Main study parameters/endpoints:

Primary endpoint is blood pressure reduction after 6 months (day time blood pressure assessed by 24-hours ambulatory measurement). Secondary outcomes include changes in renal sympathetic innervation (by 123I-MIBG scintigraphy), systemic sympathetho-humoral activity (by peroneal microneurography and plasma catecholamines and rennin and aldosterone activity), measured creatinine clearance, proteinuria, number of anti-hypertensive drugs needed and quality of life and adverse events. Feasibility aspects include

number of ablation pulses, duration of the intervention and total amount of radio contrast agent (ml).

Study objective

We hypothesize that catheter based selective renal denervation of the native kidneys in renal transplant recipients will improve blood pressure control and diminish the number of antihypertensive drugs.

Study design

Primary and secondary measurement: At inclusion and after 6 months.

Intervention

Catheter based renal denervation of the native kidneys (Symplicity system, Medtronic). Renal nerve ablation is achieved in a single 40 minute catheterisatioin session.

Contacts

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Eligibility criteria

Inclusion criteria

1. Renal graft in situ since > 6 months, measured creatinine clearance >35 ml/min and;

2. A diuresis > 200ml/day of the native kidneys at time of transplantation or radiological evidence of residual flow in the renal arteries indicating that they are accessible for the intervention and;

3. Day time blood pressure >140/90 mmHg (assessed by 24-hours ambulatory measurement within 3 months prior to inclusion in the study, as is regularly performed in the nephrology outpatient clinic);

4. Treated according to National Kidney Foundation Kidney Disease Quality Outcomes Quality Initiative guidelines (2004), i.e. having been advised to minimize salt intake and using >3 antihypertensive medications in maximal tolerated dose, including a diuretic or ≤3 antihypertensive medications in case of confirmed intolerance to other antihypertensive medications". Medications and their dosages should not have been changed since the measurement.

Exclusion criteria

1. (Planned) pregnancy, lactation;

2. Life expectancy < 1 year;

3. Contraindications for (relative) hypotensive episodes i.e. haemodynamically significant valvular disease, documented transient ischemic attacks or angina pectoris during relative hypotension;

4. Heart failure, NYHA class III-IV; chronic Lung Disease Gold III-IV;

5. Major complications during previous radiological interventions (i.e. allergy to contrast agent, cholesterol embolism);

6. (Reno) vascular abnormalities in any part of the catheter access (including the aortic-iliac tract) route that impede the procedure of renal denervation;

7. Use of vitamine K antagonists or other (non-aspirin) form of anti-coagulatory therapy with an absolute indication (i.e. that cannot be temporarily stopped);

8. Implantable cardioverter defibrillator (ICD) in situ;

9. Planned surgery within the next six months;

10. Drugs- or alcohol abuse;

11. Inability to give informed consent.

Study design

Design

Study type :	Interventional
Intervention model :	Parallel
Allocation :	Non controlled trial
Masking :	Open (masking not used)
Control :	N/A , unknown

Recruitment

NL

Recruitment status :	Other
Start date (anticipated) :	01-12-2012
Enrollment :	20
Type :	Unknown

Ethics review

Positive opinion

Date :	20-02-2013
Application type :	First submission

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
NTR-new	NL3696
NTR-old	NTR3866
CCMO	NL4284301812
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Study results

Summary results

n/A