Thiazide diuretics versus calcium channel blockers for the treatment of calcineurin inhibitor-induced hypertension in patients with psoriasis or eczema: a single-center randomized cross-over trial.

Published: 11-03-2014
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To compare the blood pressure lowering effect of thiazides against calcium channel blockers in CNI-induced hypertension.

Ethical review	Approved WMO
Status	Will not start
Health condition type	Vascular hypertensive disorders
Study type	Interventional

Summary

ID

NL-OMON40718

Source
ToetsingOnline

Brief title
TT-study Dermatology

Condition

- Vascular hypertensive disorders

Synonym
Hypertension or high blood pressure

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: VENI Beurs (NWO)

Intervention

Keyword: Calcineurin inhibitors, Calcium Channel Blockers (CCB's), Hypertension, Thiazide diuretics

Outcome measures

Primary outcome

Change in average 24-hour systolic blood pressure after eight weeks of

treatment.

Secondary outcome

* Incidence of hyperkalemia (serum potassium > 5.0 mmol/l)

* Incidence of non-anion gap metabolic acidosis (serum bicarbonate < 20 mmol/l)

* Incidence of edema (as assessed by physical examination)

* Number of antihypertensive drugs

* Side-effects:

- Decrease in MDRD-GFR

- Development of hyponatremia

- Development of hypomagnesemia

- Development of hypokalemia

- Increase in HbA1c

- Fluctuation in plasma cyclosporine level

- Occurrence of gout

Study description

Background summary

Calcineurin inhibitors (CNIs) are routinely used as immunosuppressive drugs after kidney transplantation and for the treatment of severe cases of psoriasis or eczema. Unfortunately their use is complicated by hypertension. At present it is not known what the best treatment for hypertensionin caused by the use of CNIs is. Recently it has been shown that CNIs cause a salt-sensitive form of hypertension that may therefore be treated with thiazide diuretics.

Study objective

To compare the blood pressure lowering effect of thiazides against calcium channel blockers in CNI-induced hypertension.

Study design

Randomized cross-over trial.

Intervention

Patients will be randomized to receive chlorthalidone (12.5 mg once daily, if needed titrated to 25 mg once daily) and amlodipine (5 mg once daily, if needed titrated to 10 mg once daily) in succession (first drug A, than drug B, or the other way around). Titration will be applied if the mean arterial pressure (MAP) is over 105 mmHg during datascope measurements 2 weeks after starting a new drug.

Study burden and risks

Both amlodipine and chlortalidone are commonly used to treat hypertension and have an acceptable side-effect profile. The four 24-hour blood pressure measurements may be burdensome, but are internationally accepted as the golden standard for the diagnosis of hypertension and the evaluation of antihypertensive therapy.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

* Treatment with cyclosporine
* MDRD-GFR * 30 ml/min
* Systolic blood pressure > 140 mmHg but < 180 mmHg during 24-hours blood pressure measurement
* Stable background antihypertensive drugs (i.e., no anticipated change in dose during the study period)
* 18 years or older

Exclusion criteria

* MDRD-GFR < 30 ml/min
* Serum sodium < 136 mmol/l
* Serum potassium < 3.5 mmol/l
* Proteinuria > 1.0 g/10 mmol creatinine
* Systolic blood pressure < 140 mmHg during 24-hour blood pressure measurement
* The use of co-trimoxazol or prednisone
* Incapacitated subjects
* Pregnancy

* Simultaneous use of thiazides and calcium channel blockers.
* Use of loopdiuretics
* Pre-existent hypertension
* Elevated uric acid levels during the use of thiazide diuretics

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Prevention

Recruitment

NL

Recruitment status:	Will not start
Enrollment:	22
Type:	Anticipated

Medical products/devices used

Product type:	Medicine
Brand name:	Amlodipine
Generic name:	Amlodipine
Registration:	Yes - NL intended use
Product type:	Medicine
Brand name:	Chlortalidone
Generic name:	Chlortalidone
Registration:	Yes - NL intended use

Ethics review

Approved WMO Date:	11-03-2014
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	13-06-2014
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
EudraCT	EUCTR2014-000605-12-NL
CCMO	NL48221.078.14