Creatine kinase and blood pressure response

Published: 25-07-2012
Last updated: 26-04-2024

In this study, we will prospectively assess the association between serum CK and response to standard antihypertensive drugs (calcium blockers or monotherapy with other antihypertensive drugs according to the policy of the general practitioner).

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

Summary

ID

NL-OMON37003

Source
ToetsingOnline

Brief title
Creatine kinase and blood pressure response

Condition

- Vascular hypertensive disorders

Synonym
high blood pressure, Hypertension

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Creatine kinase, Hypertension, Treatment failure

Outcome measures

Primary outcome

The difference in blood pressure response after 3 weeks of treatment in

relation to baseline serum CK.

Secondary outcome

The difference between serum CK activity at baseline and after 3 weeks of

treatment with antihypertensive drugs.

Study description

Background summary

Failure of hypertension treatment is a major clinical issue. We have reported evidence that creatine kinase (CK) increases blood pressure through greater sodium retention and cardiovascular contractility, by rapidly providing ATP for these functions. Furthermore, we found in a cross-sectional setting that CK was the main predictor of treatment failure (adjusted OR 3.7; 95% CI 1.2 to 10.9) in the population, independent of age, sex, BMI, fasting glucose, ethnicity, or education level.

Study objective

In this study, we will prospectively assess the association between serum CK and response to standard antihypertensive drugs (calcium blockers or monotherapy with other antihypertensive drugs according to the policy of the general practitioner).

Study design

Observational study

Study burden and risks

The extra burden for the participant besides the regular first line patient care is the draw of 2 extra tubes of blood.
The antihypertensive treatment and diagnostic examinations (blood draw, EKG, urine analysis) are all clinical standards within first line care.
Venapunction may induce a vasovagal collaps. We expect little side effects for the standard first line treatment. Side effects that may occur with calcium blockers are headache, oedema, redness of the face, obstipation, and fatigue. Then the medication will be switched to another drug in accord with the general practitioners protocol.

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

Ambulatory adult subjects age 18-60 years, with newly detected hypertension stage I and II

in primary care (SBP/DBP * 140/90 and SBP/DBP < 180/110 on at least two consecutive visits), after drie days of rest, otherwise healthy, without clinical or laboratory evidence of muscle damage.

Exclusion criteria

No rest during the last 3 days, treated hypertension, severe (SBP * 180 mm Hg) hypertension, secondary hypertension, (history of) cardiovascular disease including TIA and stroke, myocardial infarction, angina, BMI>/= 30 kg/m2, diabetes mellitus, lipid spectrum abnormalities, thyroid, kidney, or liver abnormalities; CK-increasing drugs including statins; neuromuscular or endocrine disorders; vasculitis; HIV infection; infectious hepatitis.

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Will not start
Enrollment:	100
Type:	Anticipated

Ethics review

Approved WMO

Date:	25-07-2012
Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL40748.018.12