Creatine kinase and platelet aggregation

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In this study, we will assess whether healthy men with high-normal serum CK display attenuated platelet aggregation, compared to those with low-normal serum CK.

Ethical review	Approved WMO
Status	Pending
Health condition type	Coagulopathies and bleeding diatheses (excl thrombocytopenic)
Study type	Observational invasive

Summary

ID

NL-OMON34637

Source
ToetsingOnline

Brief title
Creatine kinase and platelet aggregation

Condition

- Coagulopathies and bleeding diatheses (excl thrombocytopenic)
- Embolism and thrombosis

Synonym
blood coagulation, platelet aggregation

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, ethnic differences, physiological differences, trombocyt aggregation

Outcome measures

Primary outcome

Main study parameters/endpoints: Difference in ADP induced platelet aggregation with low vs high serum CK.

Secondary outcome

Differences in study groups between other blood parameters, including platelet count, aPTT, PT, fibrinogen, spontaneous platelet aggegation, P-selectin, collagen, arachidon acid and ristocetine aggregation tests (before and after 80 mg aspirin), clopidogrel resistance, ADP/ATP ratio in platelets, creatine, creatinine

Study description

Background summary

Black people are reported to have attenuated platelet aggregation and high serum creatine kinase (CK) activity. Creatine kinase affects the ADP/ATP ratio through catalysis of the reaction: ADP + creatine phosphate (CrP) <=> ATP + creatine. A greater flux through the reaction may lead to lower ADP and affect platelet aggregation. In a pilot study, we found that adding human CK to platelet-rich plasma attenuated ADP induced platelet aggregation.

Study objective

In this study, we will assess whether healthy men with high-normal serum CK display attenuated platelet aggregation, compared to those with low-normal serum CK.

Study design

Observational study

Study burden and risks

The participants will attend once. General history will be taken, 5 tubes of blood will be drawn once from the participant*s cubital vein, 3 for estimation of blood values, and 2 for coagulation tests. Participants will then receive a single dose of aspirin (80 mg), and after 1 hour, 2 more tubes of blood will be drawn for coagulation tests; in total 7 tubes, around 70 ml blood. With a low burden to the participant, the resulting data might help explain clinically relevant ethnic differences in platelet aggregation.

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

healthy men, 18-50 Y

Exclusion criteria

personal and family history of bleeding or coagulation abnormalities, drug use, use of acetylsalicylic acid or other non-steroidal anti-inflammatory drugs in the past week, current smoking, BMI>/= 30 kg/m2; glucose, lipid spectrum, thyroid, kidney, or liver abnormalities, sickle cell disease.

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-11-2010
Enrollment:	24
Type:	Anticipated

Ethics review

Approved WMO

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	NL31567.018.10