Can plasma VLDL-triglycerides be influenced by lactate in the brain?

Published: 29-07-2011
Last updated: 11-05-2024

To evaluate the possible role of brain lactate on hepatic VLDL-TG secretion in the liver in healthy men.

Ethical review	-
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON37269

Source
ToetsingOnline

Brief title
Triglycerides and brain lactate

Condition

- Other condition

Synonym
FCH

Health condition

vet metabolisme

Research involving
Human

Sponsors and support

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

Intervention

Keyword: brain, lactaat, liver, VLDL-triglyceride metabolism

Outcome measures

Primary outcome

VLDL-TG secretion

Secondary outcome

scd-1, lactate in brain

Study description

Background summary

In present studies a more prominent role of the brains has been shown in the regulation of the lipidmetabolism. Intraventricular and intravenous lactate infusion showed a strong decrease in liver VLDL-TG secretion in healthy rats. The possible association between brain lactate and increased VLDL-TG in this disease is not known.

.

Study objective

To evaluate the possible role of brain lactate on hepatic VLDL-TG secretion in the liver in healthy men.

Study design

case control intervention study that will consist of three visits

Intervention

lactate infusion, glycerol bolus

Study burden and risks

A total of 490 ml venous blood will be withdrawn. 240 ml per research day and 10 ml at visit 1.

A haematoma can occur at the place of the needle.

Lactate has been extensively used in studies in the same concentration and is frequently used in the hospital for patients with extracellular depletion. Side effects of lactate are in the protocol. Plasma lactate will be kept stable at 3 mmol/L by bedside with a 10 minutes-interval.

Labelled glycerol behaves in vivo as its unlabeled isotopomer and therefore has no side effects

No harmful effects are known from MRS scanning of the brain.

Contacts

Public
Academisch Medisch Centrum

Meibergdreef 9
1105 AZ Amsterdam
NL
Scientific
Academisch Medisch Centrum

Meibergdreef 9
1105 AZ Amsterdam
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Healthy men (BMI<26), 18-60 yrs

Exclusion criteria

Panic disorder, renal and liver dysfunction (creatinine > 150 umol/L, elevated liver enzymes, known or previous cardiovascular diseases, DM II. In case of the MRS: claustrophobia, foreign metal devices

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)

Primary purpose: Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-09-2011
Enrollment:	20
Type:	Actual

Ethics review

Not available

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	NL22088.018.08