Lipid-induced insulin resistance.

No registrations found.

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

Summary

ID

NL-OMON26429

Source Nationaal Trial Register

Brief title N/A

Health condition

mitochondrial function, insulin resistance

mitochondrieel functioneren, insuline resistentie

Sponsors and support

Primary sponsor: N.A. Source(s) of monetary or material Support: Diabetes Fonds (DFN)

Intervention

Outcome measures

Primary outcome

Insulin sensitivity (hyperinsulinemic-euglycemic clamp) and mitochondrial function.

Secondary outcome

1. Whole body oxidative capacity;

- 2. Body composition;
- 3. Skeletal muscle mitochondrial markers;
- 4. Muscle lipid accumulation;
- 5. Expression of proteins involved in fatty acid handling;
- 6. Insulin signalling in skeletal muscle.

Study description

Background summary

N/A

Study objective

Administration of a lipid emulsion consisting of long-chain triglycerides (LCT-trial) in nontrained individuals, will induce insulin resistance due to increased DAG accumulation and subsequent activation of the PKC pathway in skeletal muscle. Infusion of long-chain triglycerides (LCT-trial) in endurance-trained subjects will result in no -or less pronouncedinsulin resistance, because of a better capacity to mobilize and/or oxidize fatty acids. In case of infusion of medium-chiain triglycerides (MCT-trial), the induction of insulin resistance will be absent for both, trained- and non-trained subjects.

Study design

The clamps will be separated by at least 1 week in each subject.

Intervention

All subjects will undergo three hyperinsulinemic euglycemic clamps, in a random order, with simultaneous infusion of either glycerol (control trial), LCT or MCT/LCT.

Contacts

Public Postbus 616 Department of Human Biology Maastricht University Medical Center Patrick Schrauwen Department of Human Biology Maastricht University Medical Center Maastricht 6200 MD The Netherlands +31(0)43-388 15 02 Scientific Postbus 616 Department of Human Biology Maastricht University Medical Center Patrick Schrauwen Department of Human Biology Maastricht University Medical Center Maastricht 6200 MD The Netherlands +31(0)43-388 15 02

Eligibility criteria

Inclusion criteria

- 1. Male sex;
- 2. Age 18-35 years;
- 3. BMI < 25 kg/m2;
- 4. Stable dietary habits.

Exclusion criteria

- 1. Family history of diabetes;
- 2. Medication use.

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL	
Recruitment status:	Suspended
Start date (anticipated):	08-02-2006
Enrollment:	20
Type:	Anticipated

Ethics review

Positive opinion	
Date:	10-09-2009
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	NL1888

4 - Lipid-induced insulin resistance. 25-05-2025

Register	ID
NTR-old	NTR2002
Other	METC Maastricht University Medical Center : 06-3-049
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Study results

Summary results

N/A