Fatty Acid Induced Oxidative Stress: it's role in preventing hypoglycemia.

No registrations found.

Ethical review	Not applicable
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON24578

Source
NTR

Brief title
FIOS: Fatty acid Induced Oxidative Stress

Health condition

1. Insulin resistance in non-obese fasting;
2. healthy human subjects.

Sponsors and support

Primary sponsor: N/A
Source(s) of monetary or material Support: Department of endocrinology and Metabolism.

Intervention

Outcome measures

Primary outcome

Insulin resistance, Free fatty acids and oxidative stress with and without acipimox.

Secondary outcome

Other measures of glucosehomeostasis: glucoregulatory hormones, (adipo)cytokines.

Study description

Background summary

During fasting hypoglycemia must be prevented to protect glucosedependent tissues. Insulin resistance is a mechanism to do so. Free fatty acids play a major role in this process. Also there is a role for oxidative stress that inhibits insulin mediated glucose uptake by several proposed mechanisms. Lipolysis can be inhibited bij acipimox wich will result in a decrease in FFA levels. Hypothetically FFA inhibition decreases oxidative stress with a concomitant decrease in insulin resistance.

Study objective

Elevated levels of Free Fatty Acids during fasting induce oxidative stress and cause insulin resistance to maintain euglycemia.

Study design

N/A

Intervention

Subjects will undergo a period of fasting and are assigned to receive either acipimox (inhibitor lipilysis) 250mg 4dd or placebo. Hereafter insulin sensitivity will be measured using stable isotope technique. Furthermore regulating hormones and lipids will be measured. Muscle specimens (v. lateralis) will be obtained for determination of intramyocellular lipids and transscription factors.

Contacts

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Eligibility criteria

Inclusion criteria

1. 6 healthy men;

2. 18-38 years;

3. BMI 20-25;

4. stable weight during the last 3 months.

Exclusion criteria

1. Diabetes;

2. diabetes first degree relatives;

3. hypercholesterolemia;

4. high intensity sport activities;

5. positive oral glucose tolerance testing.

Study design

Design

Study type: Interventional

Intervention model:	Crossover
Masking:	Open (masking not used)
Control:	Placebo

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-01-2006
Enrollment:	6
Type:	Actual

Ethics review

Not applicable

Application type:	Not applicable

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	NL476
NTR-old	NTR517
Other	: N/A
ISRCTN	ISRCTN85121743

Study results

Summary results
N/A