Coffee consumption and glucose tolerance in humans.

No registrations found.

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

Summary

ID

NL-OMON23240

Source
NTR

Brief title
Koffiestudie

Health condition

Diabetes Mellitus type 2 (DM type II)

Sponsors and support

Primary sponsor: Vrije Universiteit (VU) Amsterdam, Institute for Health Sciences. The study will be executed at the Vrije Universiteit (VU) Medical Center, Amsterdam
Source(s) of monetary or material Support: Dutch Diabetes Research Foundation

Intervention

Outcome measures

Primary outcome

Glucose and insulin concentrations in blood

Secondary outcome

Glucagon-like peptide-1 concentrations and dipeptidyl peptidase IV activity in blood

Study description

Background summary

High coffee consumption is associated with a lower risk of type 2 diabetes. Similar associations are observed for caffeinated and decaffeinated coffee, suggesting that coffee components other than caffeine have beneficial effects on glucose homeostasis. Chlorogenic acid and trigonelline are major components in coffee and may be partly responsible for improved glucose tolerance following coffee consumption. The objective of this study is to test whether chlorogenic acid and trigonelline ingestion acutely reduce postprandial glucose concentrations in humans. The study is a randomized cross-over trial in 20 overweight men including 4 treatments: decaffeinated coffee, chlorogenic acid, trigonelline, and placebo. Acute effects on glucose and insulin responses following an oral glucose tolerance test will be examined.

Study objective

Intake of chlorogenic acid and trigonelline reduce postprandial glucose concentrations during an oral glucose tolerance test relative to placebo.

Intervention

All participants will receive four treatments in random order, on four different days:

1. Decaffeinated coffee;

2. Chlorogenic acid.

3. Trigonelline.

4. Mannitol (placebo).

All treatments will be ingested before an oral glucose tolerance test. Blood samples will be taken on 7 occasions on each study day. Treatments will be double blind, except for the decaffeinated coffee treatment.

Contacts

Public

De Boelelaan 1085
Margreet R. Olthof
De Boelelaan 1085
Amsterdam 1081 HV
The Netherlands
+31 205982522
Scientific
De Boelelaan 1085
Margreet R. Olthof
De Boelelaan 1085
Amsterdam 1081 HV
The Netherlands
+31 205982522

Eligibility criteria

Inclusion criteria

1. Apparently healthy males;
Acute effects of coffee and major coffee components on glucagon-like peptide 1 response and glucose tolerance in humans;

2. Age at screening: 18 years and above;

3. Body mass index (BMI) between 25.0 and 35.0 kg/m2;

4. Regular coffee consumer;

5. Willing to restrict coffee consumption during the study to max. 1 cup per day;

6. Voluntary participation;

7. Willing not to be blood or plasmaferese donor from 4 weeks before the start of the study until the end of study.

Exclusion criteria

1. Women;

2. Smokers;

3. Diabetics;

4. Blood sampling is considered too difficult (assessed during pre-study screening);

5. Any chronic or acute disease;

6. Hypertension criteria for moderate hypertension WHO 2003;

7. Medical history or surgical events known to interfere with the study;

8. Alcohol consumption > 28 consumptions per week;

9. Self reported weight loss or gain > 2 kg in the month prior to screening;

10. Any special diet;

11. Participation in any other intervention trial up to 3 months before and during this study;

12. Use of medication known to interfere with the study outcome;

13. Exercising more than 4 hours vigorously per week.

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Masking:	Double blinded (masking used)
Control:	Placebo

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	15-08-2007
Enrollment:	20
Type:	Anticipated

Ethics review

Positive opinion

Date:	06-09-2007
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	NL1020
NTR-old	NTR1051
Other	: 2006.11.020/2946308
ISRCTN	ISRCTN wordt niet meer aangevraagd

Study results