Diurnal and segmental variation in glucose sensing

No registrations found.

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

Summary

ID

NL-OMON20753

Source
NTR

Brief title
N/A

Health condition

obesity, nutrient sensing, obesitas, nutrient perceptie

Sponsors and support

Primary sponsor: Maastricht University
Source(s) of monetary or material Support: Maastricht University

Intervention

Outcome measures

Primary outcome

Endpoints of the research are differences in satiety, food intake, and changes in hormone concentrations between the conditions.

Secondary outcome

Differences between conditions in thirst or nausea.

Study description

Background summary

Overweight is a big and still growing health-related problem. For many years research has been conducted to gain insight into the effects of specific nutrients that may influence hunger related feelings and food intake. The small intestine has proven to be of great importance for the satiating effects of nutrients. Recent findings showed that infusion of fat in the small intestine lowers feelings of hunger and lowers energy intake. Little is known about the effects of carbohydrates (glucose) on the small intestine. It is known that the human body reacts differently to an oral glucose load in the morning compared to an oral glucose load in the evening. Possibly these differences can be partially explained by different effects of glucose on the small intestine. The aim of this research is to determine the effect of glucose in the small intestine on the secretion of hormones, appetite related feelings and food intake, and whether these effects differ between time of day (morning vs evening) and segment of the small intestine (duodenum vs ileum).

Study objective

What is the effect of carbohydrate infusion on food choice, food intake, satiety, hormones, dependent on the time of day and segment of the small intestine?

Study design

1 day for tube positioning, 3 testdays

Intervention

The subjects receive in the duodenal as well as in the ileal study:

- an oral glucose drink in the morning and in the evening

- an infusion with glucose in the duodenum or ileum, in the morning and in the evening

- an infusion with saline in the duodenum or ileum, in the morning and in the evening

Contacts

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Eligibility criteria

Inclusion criteria

1. Healthy male or female

2. Age 18-55 years

3. Body Mass Index (BMI) of 18-29 kg/m2

Exclusion criteria

1. Evidence of severe diseases, allergy, major surgery and/or laboratory assessments which might limit participation in or completion of the study protocol.

2. Gastrointestinal or hepatic disorders influencing gastrointestinal absorption or transit.

3. Use of psychotropic drugs.

4. Use of alcohol in excess of 21 units/week for males and 14 units/week for females.

5. Concomitant medication that can increase gastric pH, or alter gastric emptying, or alter intestinal transit, or influence satiety/energy intake.

6. Pregnancy, lactation, wish to become pregnant during study, or having a positive pregnancy test at inclusion.

7. Reported unexplained weight loss/gain of more than 2 kg in the month before the study

enrollment.

8. Score > 9 on Factor 1 (dietary restrained) of the Dutch translation of the Three Factor eating Questionnaire (TFEQ).

9. Blood donations less than three months previous to study enrollment.

10. One or more of the following dietary habits: medically prescribed diets, weight reduction diets, or vegetarian/macrobiotic/biologically dynamic food habits.

11. Reported working on late/night shifts.

Study design

Design

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-07-2008
Enrollment:	36
Type:	Anticipated

Ethics review

Positive opinion

Date:	23-05-2008
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	NL1275
NTR-old	NTR1321
Other	MEC : 08-3-033
ISRCTN	ISRCTN wordt niet meer aangevraagd

Study results

Summary results
N/A