Functional MRI of taste intensity in healthy normal-weight men

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Our main objectives are to determine the brain regions whose activity co-vary with sweet and savoury taste intensity (objective intensity) and to determine the brain regions whose activity co-vary with subjective ratings of taste intensity (…

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON33680

Source
ToetsingOnline

Brief title
Functional MRI of taste intensity

Condition

- Other condition

Synonym
n.v.t.

Health condition

geen

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Utrecht
Source(s) of monetary or material Support: Ministerie van OC&W,NWO-STW

Intervention

Keyword: brain, functional MRI, intensity, taste

Outcome measures

Primary outcome

To measure the activity in the amygdala and insula that is associated with the

change in taste intensity, regardless of the pleasantness of the taste.

Secondary outcome

To determine whether the pleasantness of sweet and savoury is in relation with

the intensity of the taste stimuli.

Study description

Background summary

In the mechanism of food intake and food choice, satiation plays an important role. Satiation refers to the inhibition of hunger and appetite after food consumption, which ultimately stops food intake. Sensory-specific satiation (SSS) refers to the decrease in pleasantness of a food after it has been eaten to satiation. Sensory properties play an important role in sensory sensation, and therefore influence sensory-specific satiation. The oral exposure, intensity and complexity of the food are important properties for the sensation of the food in the mouth. These properties therefore play an underlying role in understanding sensory-specific satiation. Our central hypothesis is that the activity in the amygdala and insula is associated with change in intensity of taste, regardless of the pleasantness of the taste. Also is expected that the pleasantness of sweet and salt taste is in relation with the intensity of the taste stimuli.

Study objective

Our main objectives are to determine the brain regions whose activity co-vary

with sweet and savoury taste intensity (objective intensity) and to determine the brain regions whose activity co-vary with subjective ratings of taste intensity (subjective).

Study design

A randomized crossover design intervention study

Intervention

Subjects will undergo four times a 20 minute fMRI scan. During the a fMRI scan subjects will taste fruitjuice or tomatojuice

Study burden and risks

The intervention is non-therapeutic to the subjects. Subjects fast for at least two hours, preceding the scans. They will be scanned two times for 20 minute per testday, while tasting fruitjuice or tomatojuice. This type of paradigm has been employed earlier and poses no risk. Functional MRI is a safe and non-invasive technique. In summary, the risk associated with participation is assessed as negligible and the burden as minimal.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Men, righthanded, normal weight (BMI between 20-25 kg/m2), age between 18 and 30 years, the willingness to be informed about possible brain abnormalities (coincidence findings with MRI)

Exclusion criteria

Unremoveble metal in body, smoking, excessive alcohol use, diet, medication use (different then paracetamol), claustrofobic.

Study design

Design

Study type: Interventional

Masking:	Single blinded (masking used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	08-09-2008
Enrollment:	15
Type:	Actual

Ethics review

Approved WMO Date:	08-07-2008
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO Date:	04-08-2009
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)

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	NL22266.041.08