Effect of Optic Flow Modulation on Circuits for Motor Organisation, an activationstudy with fMRI.

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In the present fMRI experiment, the sensation of forward motion in depth will be induced by optic flow. By periodically interupting this sensation, we try to evoke responses in motor-related circuitry in oreder to gain insight in the pathophysiology...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON32479

Source
ToetsingOnline

Brief title
Optic flow effect on motor circuits

Condition

- Other condition

Synonym
nvt

Health condition

cerebrale organisatie van motoriek bij gezonden

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: cerebral activation, fMRI, visuomotor

Outcome measures

Primary outcome

Locatisation of condition-gerelated cerebral activations. This is based on the

assessment of changes in (hemodynamic) BOLD responses, induced by differences

between the stimulusconditions.

Secondary outcome

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Study description

Background summary

By visual presentation of dots moving that move from the center of a monitor screen, with increasing speed, to the peripheral screenside (optic flow) the illusion of forward self-motion is induced. It mimicks basic features of gait sensation. In Parkinson's Disease (PD), freezing of gait may occur when the patient approaches a small corridor. On the other hand visual stimuli may also support motor patterns in PD. In the present fMRI study, we want to find out what the effect of optic flow is on cerebral circuitry involved in the organisation of movement.

Study objective

In the present fMRI experiment, the sensation of forward motion in depth will be induced by optic flow. By periodically interupting this sensation, we try to evoke responses in motor-related circuitry in oreder to gain insight in the pathophysiology underlying 'freezing of gait' in PD.

Study design

fMRI measurement will be obtained during the presentation of the following visual stimulus patterns:

In condition 1 (*flow forward) dots will appear from the center of a virtual horizon, in radially moving with increasing speed into the lower part of the screen. In condition 2 ('flow reversed'), the dots move in opposite direction which induces the illusion of departure. In condition 3, radnom dot movements serves as control. In al 3 conditions black curtains will repeatedly move from the lateral outsides thus narrowing the flow pattern.
Analysis of stimulus-related differences in cerebral activation is done on voxel-level by Statistical Parametric Mapping.

Study burden and risks

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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

healthy right-handed subjects, age 18-65y

Exclusion criteria

neurological or ophtalmological disease,
pregnancy, claustrophobia,
carrier of ferromagnetic material

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-10-2008
Enrollment:	18
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	NL24624.042.08