Spatial remapping after a stroke affecting the right posterior parietal cortex

Published: 06-08-2015
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Primary objectives1) To clarify which components of spatial remapping are impaired after damage to the posterior parietal cortex.2) To correlate spatial remapping abilities with scanpath quality in visual search.3) To examine whether different...

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

Summary

ID

NL-OMON42763

Source
ToetsingOnline

Brief title
Spatial remapping deficits after stroke

Condition

- Vision disorders
- Central nervous system vascular disorders

Synonym
infarction, Stroke

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Utrecht
Source(s) of monetary or material Support: VIDI grant van S. Van der Stigchel

Intervention

Keyword: Eye-movement, Neuroscience, Spatial cognition

Outcome measures

Primary outcome

Spatial remapping abilities as obtained through eye-movement characteristics (e.g. endpoint error and onset latency) and behavioural responses of location discrimination (i.e., the ability to accurately judge whether two stimuli were presented at identical locations). All parameters will be assessed for different directions of spatial remapping (see last paragraph of introduction) enabling within-subject analyses.

Secondary outcome

Problems related to spatial remapping deficits encountered in daily life. These answers will be measured with a questionnaire on a 5-point Likertscale.

Study description

Background summary

Spatial remapping is a function of the visual system that enables us to maintain a stable view of the world when we make eye-movements. This is beneficial, for example, when searching for a pen on a cluttered desk. Neurons in the posterior parietal cortex (PPC) are thought to play a crucial role in spatial remapping. The effect of damage to the PPC on spatial remapping has been investigated very little and only in small samples (n < 10). Different studies using different paradigms have yielded conflicting results. With a larger sample size and three paradigms to test different components of spatial remapping we will be able to thoroughly assess the consequence of damage to the PPC on spatial remapping. Moreover, by including only patients of whom radiological data is available, we can analyse whether different anatomical subregions within the PPC are differently contributing to spatial remapping.

Study objective

Primary objectives
1) To clarify which components of spatial remapping are impaired after damage to the posterior parietal cortex.
2) To correlate spatial remapping abilities with scanpath quality in visual search.
3) To examine whether different anatomical subregions within the PPC are related to different components of spatial remapping.

Secondary objective
To screen for problems in daily activities that may be related to spatial remapping, using a short questionnaire.

Study design

Cross-sectional

Study burden and risks

Risks of this study are negligible. All paradigms are non-invasive. Burden for the subjects is minimal, and only related to the time investment of two visits at the Department of Experimental Psychology. This research will provide new explanations cognitive impairments after damage to the PPC and may pave roads to new approaches in cognitive rehabilitation. The experiments provide no direct benefit for the subjects.

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

History of clinically diagnosed ischemic stroke affecting the parietal lobe, as verified by MRI or CT data. Stroke can be either first ever or recurrent.
Lesion should be restricted to the right hemisphere, as assessed by inspection of radiological data.
Age between 18 and 85.

Exclusion criteria

Clinical signs of visual field defects, as verified with a short check in the first visit.
Unable to understand instructions of the behavioural paradigms.
Unable to complete eye-tracking calibration procedure.
History of substance abuse.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	13-09-2016
Enrollment:	40
Type:	Actual

Ethics review

Approved WMO Date:	06-08-2015
Application type:	First submission
Review commission:	METC NedMec
Approved WMO Date:	16-11-2016
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	18-10-2017
Application type:	Amendment
Review commission:	METC NedMec

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	NL53043.041.15

Study results

Date completed: 20-11-2019

Results posted: 16-06-2021

Actual enrolment: 32

Summary results
Trial ended prematurely

First publication
01-01-1900