

Temporal processing in patients with right parietal brain damage with a specific focus on the effects of temporal ventriloquism

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The primary objective is to investigate (visual) temporal processing in patients with right parietal cortex damage, in particular temporal ventriloquism. The following assessments will be made: Task 1: visual Temporal Order Judgment (VTOJ) for...

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

Summary

ID

NL-OMON33400

Source

ToetsingOnline

Brief title

Temporal processing in patients with right parietal brain damage

Condition

- Other condition

Synonym

brain damage, right parietal brain damage

Health condition

hersensletsel (agv trauma, pathologie, cva)

Research involving

Human

Sponsors and support

Primary sponsor: Universiteit van Tilburg

Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: right parietal brain damage, temporal processing, temporal ventriloquism

Outcome measures

Primary outcome

Task 1: The main parameter in task 1 is the Just Noticeable Difference (JND) for visual temporal order. The JND reflects the smallest time difference (in milliseconds) between the two visual stimuli (flashes) that participants need to perceive for a correct visual temporal order. The JND is calculated for each group and the two conditions of the task.

Secondary outcome

Task 2: the percentage omissions (total number of omissions divided by total number of targets) reflects a subject's degree of neglect.

Study description

Background summary

The perception of the world around us largely determines how we attend to and behave in the world. To correctly respond to situations around us, it is important to receive the right information from our senses about this situation. Timing plays an important role in this process; if information from (for example) our eyes and ears are not at approximately the the same time passed to our brain, it is impossibly to integrate this information into a coherent percept. Previous research has shown that the right parietal cortex plays an important role in timing mechanisms with a crucial role for the right parietal cortex in visual temporal processing. People with right parietal

cortex damage often suffer from neglect, which is mainly characterized in spatial terms. Results from above mentioned studies suggest also a temporal role in neglect. In this current project we will follow up on previous findings by exploring temporal processing in patients with right parietal cortex lesions, in particular the effects of temporal ventriloquism.

Study objective

The primary objective is to investigate (visual) temporal processing in patients with right parietal cortex damage, in particular temporal ventriloquism. The following assessments will be made:

Task 1: visual Temporal Order Judgment (VTOJ) for measuring visual temporal processing and the effects of temporal ventriloquism

Task 2: Cancellation task for measuring possible neglect

Study design

Task 1: the VTOJ has two conditions, silent control and clicks at an audiovisual delay of ~100 ms. The visual flashes are presented at 10 SOAs ranging from -600 ms to +600 ms with steps of 100, 50 and 25 ms. The visual flashes are presented in both the left and the right visual hemifield at ~10 degrees from fixation. This results in 40 unique trials, each randomly presented 16 times in five blocks of 128 trials each.

Task 2: the cancellation task consists of 468 letters spread over an A4 paper. Within the 468 stimuli, 40 targets letters *O* are presented. It is the subject's task to cancel out all the *O*'s.

Study burden and risks

As far as we can consider there are no risks related to this study. Therefore we do not foresee any difficulties that could lead to any medical, mental or physical problems. The tasks are easy to perform, there is no correct or false answer for the subject and the subject can get a break at any time. Therefore the mental load is minimalized.

This study is group-related, because it could not be conducted without the participation of right parietal brain damaged patients (all belonging to one group). As stated before, we would like to acquire more knowledge on temporal processing and temporal ventriloquism in persons with right parietal lesions. Therefore, the inclusion of right parietal patients (and comparable left hemisphere lesioned persons as a control group) is necessary.

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

Inclusion criteria for the right parietal brain damage subjects:

- Presence of right parietal brain damage, diagnosed by a neurologist based on CT scan(s)
 - 18 years or older
 - Normal hearing and normal or corrected to normal vision
- Written informed consent;
- Inclusion criteria for the left hemisphere brain damage subjects:
- Presence of left parietal brain damage, diagnosed by a neurologist based on CT scans (damage should reflect the lesion of a right parietal patient included in the study concerning location and size and patients should have a comparable post-trauma period)
 - 18 years or older
 - Normal hearing and normal or corrected to normal vision
 - Written informed consent

Exclusion criteria

- Evidence of a serious medical, neurological or psychiatric illness (apart from the current brain damage), seizure disorders, trauma or a use of medications affecting the nervous system
- History of brain damage
- Phatic deficits; Individuals in the healthy control group are excluded if there are concerns about:
 - psychiatric conditions
 - hearing and/or vision disabilities

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)

Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	01-04-2010
Enrollment:	36
Type:	Actual

Ethics review

Approved WMO	
Date:	15-09-2009
Application type:	First submission
Review commission:	METC Brabant (Tilburg)

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	NL26989.008.09