Source memory and recognition of emotional versus neutral pictures in patients with Alzheimer's Disease

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Ethical review	Approved WMO
Status	Pending
Health condition type	Encephalopathies
Study type	Observational non invasive

Summary

ID

NL-OMON32260

Source
ToetsingOnline

Brief title
Emotional memory in patients with Alzheimer's Disease

Condition

- Encephalopathies
- Dementia and amnestic conditions

Synonym
Alzheimer's dementia, dementia

Research involving
Human

Sponsors and support

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

Intervention

Keyword: Alzheimer's Disease, Dementia, Emotional Memory, Neuropsychology

Outcome measures

Primary outcome

Performance on the working memory task and the number of errors in the long

term memory task.

Secondary outcome

Not applicable

Study description

Background summary

The amygdala is a neural structure that is involved in modulating memory for emotional material. It has strong connections with the hippocampus, where information is stored. In psychological experiments, emotional content seems to enhance long term memory, but disturb working memory processes (for example, binding of features). This may be due to attentional processes that focus on the content of the picture rather than the context in which it appears.
In patients with Alzheimer*s Disease, the function of the amygdala and the function of the hippocampus may be diminished due to atrophy. Therefore, enhanced memory for emotional compared to neutral material (the *emotional enhancement effect*) may be absent or rarely present. Because results from other studies with similar objectives are inconclusive, further research is needed to clarify the processes underlying emotional memory in Alzheimer patients.
In this study, source memory (memory for locations) and long term memory (recognition) for emotional versus neutral pictures will be tested. It is expected that healthy participants will remember the location of emotional pictures less accurately than the location of neutral pictures in a working memory task, but that they will recognize these emotional pictures better than neutral pictures in a delayed recognition task. In Alzheimer patients, we do not expect to see a difference between emotional and neutral pictures, neither in the relocation task nor in the recognition task. Furthermore, it is expected that the patient group will perform less than the control group, in general.

Study objective

The main objective of the study is to acquire more insight in memory for emotional information in patients with Alzheimer*s Disease, compared to healthy elderly people. A second objective is to explore the effect of emotional content on working memory compared to long term memory.

Study design

This is a case-control study.
Two repeated measures ANOVA's will be done:
One with performance on the working memory task as the dependent variable, valence (emotional-positive, emotional-negative, and neutral) as within subject factors, and group (Alzheimer patients and healthy control subjects) as between subject factor.
The second ANOVA will be done with the number of errors in the recognition task as the dependent variable, valence (emotional-positive, emotional-negative, and neutral) as within subject factors, and group (Alzheimer patients and healthy control subjects) as between subject factor.

Study burden and risks

The burden of participating in this study is minimal, because it only involves one session of 45 minutes (maximally).
This can be combined with a regular visit to the department of Geriatrics, if participants are not able to come to the department especially for the experiment. The study is not physically invasive and will only involve cognitive tasks and some questionnaires. Some people may find it uncomfortable to perform the cognitive tasks. The pictures that are used can be experienced as positive, negative or neutral. Should people find it uncomfortable, they are allowed to quit directly. This will be emphasized before starting the experiment. In our opinion, there are no risks involved. The study is group related because the main objective is to acquire knowledge about emotional memory in Alzheimer patients.

Contacts

Public
Universitair Medisch Centrum Sint Radboud

Reinier Postlaan 4
Postbus 9101, 6500 HB Nijmegen
Nederland
Scientific
Universitair Medisch Centrum Sint Radboud

Reinier Postlaan 4
Postbus 9101, 6500 HB Nijmegen
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

1) Dutch speaking
2) Normal or corrected to normal vision
3) Competence of will
For the patient group:
1) Diagnosis of probable Alzheimer's Disease (for more information see Research Protocol section 4, page 13).
2) Score between 18 and 25 on the Mini Mental State Examination (MMSE)
3) MRI scan (already made) available
For the control group:
1) Score > 27 on the Mini Mental State Examination (MMSE)

Exclusion criteria

1) Other neurological complications, for example large cerebrovascular accident, traumatic brain injury, or Korsakoff's syndrome
2) (Past) psychiatric disorders, for example depression unrelated to Alzheimer's Disease, anxiety disorder, or schizophrenia
3) Current signs of depression (GDS-15 score >6)

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:	Diagnostic

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	15-05-2008
Enrollment:	48
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

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	NL22253.091.08