

Brain activation during sentence processing in Parkinson's disease: an event related functional magnetic resonance imaging study

Submission date 28/12/2006	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
Registration date 28/12/2006	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 04/11/2008	Condition category Nervous System Diseases	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

Contact name
Dr K Colman

Contact details
Oude Kijk int Jatstraat 26
Groningen
Netherlands
9712 EK
+31 (0)50 363 8135
k.s.f.colman@rug.nl

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
NTR782

Study information

Scientific Title

Study objectives

We hypothesise that basal ganglia (BG) are involved in sentence processing whenever a sentence structure deviates from the predicted structure and this in order to inhibit the irrelevant structure and to switch to a revision process.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Not provided at time of registration

Study design

Observational case-control study

Primary study design

Observational

Secondary study design

Case-control study

Study setting(s)

Not specified

Study type(s)

Screening

Participant information sheet

Health condition(s) or problem(s) studied

Parkinson's disease

Interventions

No interventions. It is observational research with the use of functional magnetic resonance imaging (fMRI) (no use of invasive techniques).

Intervention Type

Other

Phase

Not Specified

Primary outcome measure

For the fMRI analysis data, a main effect of group is expected. The level of activation in the BG will be reduced in the PD patient group compared to the healthy control group. For the within subject factors we expect to find a main effect of grammaticality. In the healthy elderly subject

group, we expect that the processing of the grammatically incorrect sentences will activate the BG more compared to the processing of the grammatically correct sentences. For the behavioural data, we expect to find slower reaction times (RTs) for the processing of non-canonical ungrammatical sentences (i.e. passive sentences with a violation) in both subject groups. However the RTs will be significantly more affected in the PD group compared to the healthy elderly subject group.

Secondary outcome measures

No secondary outcome measures

Overall study start date

01/12/2006

Completion date

01/12/2007

Eligibility

Key inclusion criteria

1. Idiopathic Parkinson's disease (PD)
2. Hoehn and Yahr stage 1 to stage 3
3. Normal vision and hearing
4. Able to give informed consent
5. Older than 40 years
6. Dutch as first language
7. Right-handed
8. Normal structural magnetic resonance imaging (MRI) scan

Participant type(s)

Patient

Age group

Adult

Sex

Both

Target number of participants

32

Key exclusion criteria

1. Not optimally medicated
2. Neurostimulator
3. Implanted pump (e.g. apomorphine)
4. Dementia (Mini Mental State Examination [MMSE] score less than 25)
5. Depression (Montgomery-Asberg Depression Rating Scale [MADRS] more than 18)
6. Another neurological disease
7. Another akinetic-rigid disorder
8. Another movement disorder
9. No normal structural MRI scan

Date of first enrolment

01/12/2006

Date of final enrolment

01/12/2007

Locations

Countries of recruitment

Netherlands

Study participating centre

Oude Kijk int Jatstraat 26

Groningen

Netherlands

9712 EK

Sponsor information

Organisation

University of Groningen (The Netherlands)

Sponsor details

Faculty of Arts

Neurolinguistics

Postbus 196

Groningen

Netherlands

9700 AD

Sponsor type

University/education

Website

<http://www.rug.nl/corporate/index?lang=en>

ROR

<https://ror.org/012p63287>

Funder(s)

Funder type

Industry

Funder Name

Stichting Internationaal Parkinson Fonds (The Netherlands)

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date**Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration