part a) Follow-up brain imaging study in obsessive-compulsive disorder;part b) Frontal-striatal and limbic circuits in Tourette and OCD, a brain imaging study

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Aims:a) Understand persistence and/or plasticity of the brain correlatesb) Understand specificity of the brain correlatesQuestions:a) Which neural correlates of OCD are state dependent and thus normalized after successful treatment?b) Which neural...

Ethical review	Approved WMO
Status	Completed
Health condition type	Movement disorders (incl parkinsonism)
Study type	Observational non invasive

Summary

ID

NL-OMON39420

Source
ToetsingOnline

Brief title
part a) Follow-up brain imaging study in OCD;part b) Brain imaging study in Tourette and OCD

Condition

- Movement disorders (incl parkinsonism)
- Anxiety disorders and symptoms

Synonym
obsessive-compulsive disorder, Tourette

Research involving
Human

Sponsors and support

Primary sponsor: Vrije Universiteit Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W,NWO ZonMW veni subsidie,nog lopende onderzoeksaanvragen bij verschillende fondsen;zoals de hersenstichting en het Prinses Beatrix Fonds

Intervention

Keyword: glutamate, MRI, OCD, response inhibition, Tourette

Outcome measures

Primary outcome

BOLD response during response inhibition task

Secondary outcome

- Glutamate concentration in dorsal ACC (MRS)

- Fractional Anisotropy (DTI)

- cortical thickness preSMA (T1 MRI)

- BOLD response at rest

Study description

Background summary

Obsessive-compulsive disorder (OCD) is a common and chronic neuropsychiatric condition that is characterized by intrusive anxiety-provoking thoughts (obsessions) and time-consuming ritualistic behaviours (compulsions). Tourette's syndrome is a movement disorders that is characterized by motor and vocal tics. OCD and Tourette share phenomenological and neurobiological characteristics. OCD is characterized by increased limbic and ventral prefrontal-striatal activity at rest and in response to emotional cues as well as decreased dorsal prefrontal-striatal activity correlating with impaired executive performance. The hypothesis has been put forward that altered dorsal prefrontal-striatal function contributes to decreased inhibition of the limbic response during processing of emotions. Based on the results derived from the original project (described in protocol version 2) we have better insight in the structural and functional brain abnormalities in OCD. However 2 important

questions remain: 1) do these abnormalities persist after symptom reduction / remission? and 2) how specific are these abnormalities?

Study objective

Aims:
a) Understand persistence and/or plasticity of the brain correlates
b) Understand specificity of the brain correlates

Questions:
a) Which neural correlates of OCD are state dependent and thus normalized after successful treatment?
b) Which neural correlates of OCD are specific and which correlates are shared with related disorders, e.g. Tourette*s syndrome?

Study design

part a)
Follow-up measurement after naturalistic follow-up in OCD patients and healthy controls:
- psychiatric and neuropsychological assessment (2 hours)
- MRI scan session (1 hour), including a) T1-weigthed structural scan (3*); b) resting state fMRI scan (5*); c) diffusion tensor imaging (10*); d) glutamate magnetospectroscopy (MRS) (20*); and e) functional MRI scan during the response inhibition (10*)

part b)
Addition of clinical control group (TS patients) and their matched healthy controls:
- psychiatric and neuropsychological assessment (2 hours)
- MRI scan session (1 hour), including a) T1-weigthed structural scan (3*); b) resting state fMRI scan (5*); c) diffusion tensor imaging (10*); d) glutamate magnetospectroscopy (MRS) (20*); and e) functional MRI scan during the response inhibition (10*)

Intervention

Repetitive transcranial magnetic stimulation (rTMS) will be used to temporarily enhance the excitability of the dorsal prefrontal cortex in patients and, in contrast, to temporarily reduce dorsal responsiveness in healthy controls.

Study burden and risks

The experiment costs
- 2 hours psychiatric assessment (including questionnaires)

- 1 hour MRI scan session

Half of the patients already participated in the extended version of the protocol and thus exactly know what they can expect.

Main concern is the claustrophobic nature of the MR environment. By excluding extreme claustrophobic participants and by proper guiding of the participants during the experiment, we have the experience that participants can easily fulfill the protocol.

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

Obsessive-compulsive disorder

Tourette
18-65 years old

Exclusion criteria

psychotropic medication
epilepsy
metal in body
pregnancy
psychotic symptoms
major somatic disorders
severe claustrophobia

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Completed
Start date (anticipated):	01-01-2009
Enrollment:	80
Type:	Actual

Ethics review

Approved WMO

Date:	11-08-2008
Application type:	First submission
Review commission:	METC Amsterdam UMC

Approved WMO

Date:	04-09-2013
Application type:	Amendment
Review commission:	METC Amsterdam UMC

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	NL23389.029.08