

Electrophysiological phenotypes of cognition and behaviour, a pilot study to obtain translational phenotypes

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Identifying translational EEG endophenotypes in mice and man that will determine cross-species genetic findings on behavioural and cognitive traits, including psychiatric disorders.

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

Summary

ID

NL-OMON36607

Source

ToetsingOnline

Brief title

Electrophysiological phenotypes of cognition and behaviour

Condition

- Psychiatric disorders NEC

Synonym

psychiatric disorders

Research involving

Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Utrecht

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

Intervention

Keyword: behaviour, EEG, endophenotype, translational

Outcome measures

Primary outcome

The main study parameters are obtained from electrophysiological data, including spectral analysis of frequency bands during resting state, Event Related Potentials, like P50, PPI and P300, but also connectivity with coherence, and graph theory analysis. Correlations with behavioural and cognitive measures will be explored, as well as associations with candidate genes or genomic measures, like gene-expression, copy number variants and chromosomal strains.

Secondary outcome

not applicable

Study description

Background summary

As the brain is central to the study of cognition, neuropsychiatric traits and behaviour in all species, it is important to obtain standardized measures of brain activity. New sophisticated analysis of EEG recordings can provide such models for interspecies understanding of brain function in health and disease. Therefore, studies integrating EEG measures are desperately needed. For understanding the pathophysiology underlying the behavioural traits and psychiatric disorders, we hope to identify susceptibility genes for analogous endophenotypes across species. This approach can provide novel biological pathways plus validated animal models critical for selective drug development.

Study objective

Identifying translational EEG endophenotypes in mice and man that will determine cross-species genetic findings on behavioural and cognitive traits,

including psychiatric disorders.

Study design

The current study will be an observational pilot study in which we intend to obtain standardized EEG recordings in a broad variety of animal and human subjects. First, we will compare differences in a range of electrophysiological outcome measures between human and animal groups using a 2x2 design (eg. comparing the difference between mice with and without the bipolar disorder gene ADCY8 gene to the difference between bipolar disorder patients and healthy controls). Secondly we will compare differences between human participants with and without a genetic variant of interest (such as the ADCY8 gene), with differences in EEG of animals with and without such genetic variant.

Study burden and risks

Participation in this study will take two hours. Overall, the risks associated with participation and the benefits to the individual are felt to be minimal. EEG is a safe method, with no additional risks for the participants. The potential benefit to society in the future is considerable if we are able to effectively compare the animal and human data.

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

- Subjects must fit in one of the groups that are investigated.
- Age ≥ 18 and able to give consent
- Inclusion of patients with all Dutch ancestry (at least three of the four grandparents from the Netherlands)
- previous participation in studies, in which the participant has consented to be approached for other studies

Exclusion criteria

- Age < 18
- Premorbid IQ < 80
- Presence of major somatic illness
- Current treatment or detention under the Dutch governmental mental health act.
- Participants that can not read, speak or understand Dutch.

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): 22-11-2011
Enrollment: 280
Type: Actual

Ethics review

Approved WMO
Date: 06-06-2011
Application type: First submission
Review commission: METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO
Date: 19-12-2011
Application type: Amendment
Review commission: METC Universitair Medisch Centrum Utrecht (Utrecht)

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	NL34331.041.10