Finding clinical endpoints in patients with ARID1B-related intellectual disability

No registrations found.

Ethical review	Not applicable
Status	Pending
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON25725

Source
Nationaal Trial Register

Brief title
Endpoints in ARID1B patients

Health condition

ARID1B

Sponsors and support

Primary sponsor: Centre for Human Drug Research
Source(s) of monetary or material Support: Centre for Human Drug Research

Intervention

Outcome measures

Primary outcome

Safety and tolerability endpoints

 (serious) adverse events ((S)AEs).

 End-of-study questionnaire

Neurocart® assessments

 Saccadic eye movements:

o saccadic reaction time (second),

o saccadic peak velocity (degrees/second)

 Smooth pursuit eye movements:

o percentage of time the eyes of the subjects are in smooth pursuit of the target (%);

 Body sway:

o antero-posterior sway (mm);

 Adaptive tracking:

o average performance (%);

 Finger tapping:

o Mean of 5 tapping-trials for the dominant hand

 Auditory steady state response

o The average inter-trial phase coherence between 35 and 45 Hz and between 200 and 500 ms.

o The average evoked power between 35 and 45 Hz and between 200 and 500 ms.

 Visual evoked potentials

o The N75 amplitude [µV]

o The P100 amplitude [µV]

o The peak to peak amplitude between the N75 and P100 [µV]

o The latency of the N75 peak [ms]

o The latency of the P100 peak [ms]

 Passive auditory oddball

o The average MMN amplitude at Fz [µV]

o The average MMN latency at Fz [ms]

o The average MMN amplitude at Cz [µV]

o The average MMN latency Cz [ms]

 Active auditory oddball

o The average response time to deviant stimuli [ms]

o The average P300 amplitude at Fz [µV]

o The average P300 latency at Fz [ms]

o The average P300 amplitude at Cz [µV]

o The average P300 latency Cz [ms]

o The average P300 amplitude at Pz [µV]

o The average P300 latency Pz [ms]

 Animal fluency test

o Total number of uniquely named animals

 Stroop-like day-night task

o Number of correct responses in incongruent trials

 15-word Visual Verbal Learning Test

o Delayed word recognition number correct

o Delayed word recognition average reaction time correct

o Delayed word recall number correct

o Immediate Word Recall, number correct, first trial

o Immediate Word Recall, number correct, second trial

o Immediate Word Recall, number correct, third trial

 Nokia Steel HR

o Step count per day

o Step count per hour

o Mean heart rate per day

o Heart rate variation per day

o Hours of sleep per day

 Questionnaire

o Daily questions

 Activity score

 Sleep score

 Stress estimation score

 Stereotypic behaviour score

• End-of-study questionnaire regarding tolerability and experience of the study.

Secondary outcome

N.A.

Study description

Background summary

De novo truncating mutations in AT rich interactive domain 1B (ARID1B) are found in about 1% of patients with intellectual disability (ID). Recently, an ARID1B mouse model showed a reduction of inhibitory gabaergic interneurons, and that stimulation of the GABA system by clonazepam in these mice reverses their cognitive and behavioural phenotype. Although it would be of interest to eventually test clonazepam in ARID1B patients, there are currently few suitable clinical endpoints to determine treatment effects in these patients. The LUMC has an internationally recognized expertise centre for patients with ARID1B mutation and has access to an international cohort of about 150 patients. In the Netherlands, there are currently 35 known ARID1B patients. This puts LUMC in a unique position to perform research in this rare patient group. CHDR has a lot of experience conducting central nervous system (CNS) tests using the Neurocart® system. The Neurocart® consists of a battery of non-invasive tests that cover all functional domains of the CNS. It provides rapid retesting of both

subjective and objective measures. Furthermore, the CHDR home-monitoring platform allows for the registration of physical activity, including heart rate and sleep in an at home-setting. This study aims to identify relevant endpoints for the detection of drug effects in children with ARID1B.

The patients will be recruited in the Netherlands.

Study objective

• To determine between-subject and within-subject variability of the study endpoints.

• To determine the differences between subjects and healthy controls regarding the study endpoints.

• To identify suitable endpoints for future clinical trials in patients with ARID1B-related intellectual disability.

Study design

Study day 1 and study day 8

Intervention

N.A.

Contacts

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Eligibility criteria

Inclusion criteria

ARID1B group

• Informed consent provided by both parents or the legal guardian prior to any study-mandated procedure.

• Known mutation in ARID1B.

Healthy control subjects

• Informed consent provided by both parents or the legal guardian if aged 11 years or younger.

• Informed consent provided by both parents or the legal guardian, and the participant if aged 12 up and till 15 years.

• Informed consent provided by the participant if aged 16 years or older.

Exclusion criteria

• Clear indication of not wanting to participate during the study

• Use of benzodiazepines or any other medication with the potential to influence study related endpoints in the investigator’s opinion.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Parallel
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	14-11-2018
Enrollment:	24
Type:	Anticipated

Ethics review

Not applicable

Application type:	Not applicable

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
NTR-new	NL7361
NTR-old	NTR7569
Other	: CHDR1828

Study results

Summary results

No