improved indentification of DBS targets using 7 Tesla MR imaging

Published: 23-10-2009
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To asses if the MRI 7 Tesla scanner provides better imaging of the DBS targets and therefore can improve planning for stereotactic surgery.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON33610

Source
ToetsingOnline

Brief title
DBS targets at 7 Tesla

Condition

- Other condition

Synonym
movement disorders

Health condition

bewegingsstoornissen

Research involving
Human

Sponsors and support

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

Intervention

Keyword: 7 Tesla, DBS, identification, targeting

Outcome measures

Primary outcome

better MR imaging of the DBS targets (STN,VIM,ZI,Gpi and PPN). Study

parameters: signal to noise ratio, resolution, contrast and scantime

Secondary outcome

nvt

Study description

Background summary

Stereotactic surgery is a well established treatment in patients with movement disorders (MD). Its success is highly dependent on the accuracy of the preoperative target planning, therefore the target(s) have to be clearly identified. We make a qualitative comparison between the 7 Tesla MRI scanner in Utrecht and the currently used 1.5 and 3 Tesla MRI scanners in Groningen. We expect that the Deep Brain Stimulation (DBS) targets on the 7 Tesla MR images will be more clearly defined. Furthermore we expect that the images will give information of the position of the Pendunculopontine nucleus, currently not clearly identifiable from surrounding structures.
This study will assess the future role of the MRI 7 Tesla in Stereotactic Surgery.
Subjects will undergo three MRI sessions. The total time spent will be around four hours.

Study objective

To asses if the MRI 7 Tesla scanner provides better imaging of the DBS targets and therefore can improve planning for stereotactic surgery.

Study design

Qualitative comparison study of DBS targets.

Study burden and risks

There is no risk associated with this purely MRI research.

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

Healthy subjects: - No known illness or disease and passing MRI inclusion criteria.;MD group: - Diagnosed movements disorder and passing inclusion criteria for DBS and MRI.

Exclusion criteria

All
- younger than 18 years of age
- presence of metal objects in the body.
- known brain anomalies
- claustrophobia

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	22-07-2019
Enrollment:	10
Type:	Actual

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	NL25023.042.08