Psychoacoustics of the auditory brainstem implant in patients with unilateral tinnitus and asymmetrical hearing loss.

Published: 21-05-2019
Last updated: 09-04-2024

Providing a better understanding of auditory percepts produced by an Auditory Brainstem.

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Hearing disorders
Study type	Observational non invasive

Summary

ID

NL-OMON48241

Source
ToetsingOnline

Brief title
Psychoacoustics with an ABI

Condition

- Hearing disorders

Synonym
Perceptive hearing loss/tinnitus - Hearing loss/Tinnitus

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: ABI, Auditory brainstem implant, psychoacoustic

Outcome measures

Primary outcome

Matching pitch and loudness perception to get a better understanding of what a

patient hears with his/her ABI, in comparison to the contralateral ear.

Secondary outcome

To explore the perceptual characteristics of single electrode stimulation via

an ABI.

To determine the binaural advantages concerning sound localization and speech

discrimination in patients with an ABI and contralateral normal hearing.

Study description

Background summary

An auditory brainstem implant (ABI) is a type of hearing device, often used for patients with neurofibromatosis type 2. It differs from the cochlear implant in the sense that the electrodes are not placed inside the cochlea but on the cochlear nucleus in the brainstem. This also results in poorer speech understanding with the ABI. An ABI is primarily used in patients in whom the cochlear nerve is damaged, or when placement of an electrode array in the cochlea is not possible. Thus far, patients with neurofibromatosis type 2 are only eligible for an ABI when they suffer from severe bilateral hearing loss. Because of this, it remains unclear what a patient hears with his/her ABI. An on-going study by van den Berge et al. performed at the UMCG evaluates the effect of ABI implantation on tinnitus in patients with unilateral hearing loss and ipsilateral tinnitus. This group of patients gives us a unique opportunity to examine the auditory percepts produced by an ABI via psychoacoustic tests in which the participant compares electric stimuli presented by the ABI to acoustic stimuli.

Study objective

Providing a better understanding of auditory percepts produced by an Auditory Brainstem.

Study design

This is a single-centre, observational study with a maximum of 10 patients derived from the ongoing ABI study (ABR nr. NL55276). There will be no control group.

Study burden and risks

Patients will have to visit the UMCG for a total of 2 times to perform 5 different audiological experiments. These experiments will pose no risk to the health of the patient. Participating in this research could provide a better insight in the psychoacoustics of the ABI and the function of the cochlear nucleus. This in turn can help future assessment of possible suitable candidates for the ABI. Furthermore, more knowledge of the cochlear nucleus is required to optimally adjust the ABI, so that patients can have the most optimal hearing experience.

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

Patients with assymmetrical hearing loss and an ipsilateral auditory brainstem implant

Exclusion criteria

Symmetrical hearing loss, unilateral deafness, no audiotory brainstem implant

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-01-2021
Enrollment:	10
Type:	Actual

Ethics review

Approved WMO

Date:	21-05-2019
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	NL68854.042.19