Cortical processing of pain: effect of a conditioning stimulus and radicular pain

Published: 30-08-2007
Last updated: 08-05-2024

Reserach to the observation of neurophysiologic pain mechanisms and the differences between healthy subjects and pain patients.

Ethical review	Approved WMO
Status	Pending
Health condition type	Spinal cord and nerve root disorders
Study type	Observational non invasive

Summary

ID

NL-OMON31230

Source
ToetsingOnline

Brief title
Cortical processing of pain

Condition

- Spinal cord and nerve root disorders

Synonym
Radicular pain

Research involving
Human

Sponsors and support

Primary sponsor: Medisch Spectrum Twente
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Cold pressor test, Evoked potential, Pain, Radicular pain

Outcome measures

Primary outcome

Reported pain experience (0-100)

Amplitudes of the EP components measured at CZ-A1A2 (P90, N150, P200 and P300)

Amplitudes of the EP components measured at C4-FZ and C3-FZ (P50 and N90)

Secondary outcome

Cortical areas

data from diagnosis file of radicular pain patients

area of compression or irritation radix

nature of pain complaints

duration of pain complaints

medication

applied diagnosis techniques

treatment patients

Study description

Background summary

Chronic pain is an increasing problem for both healthcare and the social security system as for medical science. Still a lot is unknown about the neurophysiological pain mechanisms underlying chronification of pain.

Study objective

Reserach to the observation of neurophysiologic pain mechanisms and the differences between healthy subjects and pain patients.

Study design

The stimulation location of the electrical stimulus (left forearm or left middle fingertip) is the only difference between both experiments. In an experiment the electrical stimulus will be modulated by two different methods; by modulation the amplitude of a single pulse or modulation of the number of pulses in a pulse train with fixed amplitude. In combination with the electrical stimulus the subject will put his right hand up to the wrist in ice water or water with the temperature of 32ºC (warm nor cold). Besides reported pain experience, the brain activity after the electrical stimulus will be measured by electroencephalography (EEG). A part of the subjects will be measured twice.

Study burden and risks

The used methods are non invasive. The maximal duration of an experiment is 2.5 hour. The actual duration of the measurement will be 1 hour. During the rest of the time the EEG electrodes and stimulation electrode will be fixed (45 minutes) and there will be breaks between the measurements (45 minutes). There are no considerable physical or mental risks joined with this research.

Contacts

Public
Universiteit Twente

postbus 50000
7500KA Enschede
Nederland
Scientific
Universiteit Twente

postbus 50000
7500KA Enschede
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

For both healthy and radicular pain patients
Right handed
age 18-65
Radicular pain patients
radicular pain syndrom diagnosed by the neurologist or clinical neurophysiologist

Exclusion criteria

Both healthy and radicular pain patients:
Psychotropic medication
healthy subjects:
pain complaints during the experiments
pain complaints for more than 1 week during previous 3 months
psychotropic medication
Radicular pain patients
other pain complaints;Radicular pain patients:
psychotropic medication
other pain complaints

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-06-2007
Enrollment:	120
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Twente (Enschede)

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	NL17719.044.07