Dopamine-serotonin dysbalance and the relation to myoclonus and psychiatric co-morbidity in patients with dystonia

Published: 15-02-2010
Last updated: 02-05-2024

To investigate if jerks and psychiatric disorders in patients with dystonia are associated with a hyperdopaminergic/ hyposerotonergic system and whether reversal of a hyposerotonergic state has a therapeutic effect.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON34645

Source
ToetsingOnline

Brief title
Dopamine-serotonin dysbalance in dystonia

Condition

- Other condition
- Movement disorders (incl parkinsonism)

Synonym
Disturbed muscle tension

Health condition

depressie, angst- en dwangstoornissen

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W,aanvullende fondsen bij collectebusfondsen zullen aangevraagd worden,Lundbeck

Intervention

Keyword: Co-morbidity, Dystonia, SPECT, SSRI

Outcome measures

Primary outcome

Percentage difference in dopamine D2 receptor, dopamine transporter and serotonin transporter binding between subjects with dystonia and healthy controls.

Proportion of patients that change at least 1 point on CGI scale after treatment on jerks.

Secondary outcome

The proportion of dystonia patients with jerks that have psychiatric co-morbidity compared to dystonia patients without jerks

Type of psychiatric co-morbidity in dystonia patients.

Performance on neuropsychological tests in dystonia patients.

Percentage difference in D2R, DAT and SERT binding between subjects with dystonia with and without jerks and with and without psychiatric disorders.

Percentage change in D2R, DAT and SERT binding in subjects with dystonia before and after a 6 week treatment course with an SSRI.

Number of points change on CGI scale before and after treatment on psychiatric symptoms and dystonia.

Number of points change on neurological and psychological scales.

Study description

Background summary

There are several clues that dystonia, and co-morbid myoclonus and psychiatric conditions, are caused by a dysbalanced dopaminergic and serotonergic system. In this project, we will test this hypothesis. This project will contribute to the knowledge about the pathophysiology of dystonia and may point to new therapeutic options in patients with dystonia.

Study objective

To investigate if jerks and psychiatric disorders in patients with dystonia are associated with a hyperdopaminergic/ hyposerotonergic system and whether reversal of a hyposerotonergic state has a therapeutic effect.

Study design

This study consists of two parts: SPECT imaging of the dopaminergic and serotonergic systems and a randomized, double-blind, placebo-controlled, crossover trial with escitalopram, an SSRI.

Intervention

Escitalopram 10 mg will be administered for 6 weeks in a randomized, placebo-controlled, double-blind, crossover trial with a washout period of 6 weeks.

Study burden and risks

The nature and extent of the burden depend on which parts of the study patients participate in. Patients will undergo a neurological and psychiatric evaluation two to four times. Patients that participate in the SPECT study will undergo two times two SPECT scans. Healthy controls participating in the SPECT study will also be neurologically and psychiatrically evaluated and will undergo two SPECT scans. Patients participating in the medication trial will have to take medication, escitalopram and placebo, each for 6 weeks. They will undergo 2 venapunctions with the withdrawing of 5 mL blood. The burden of this study can vary between four visits and 6 visits in 18 weeks.
The risks associated with participation in these studies are low: the psychiatric questionnaires used in our studies are considered to be mildly

psychologically stressful. SPECT is a safe imaging technique with acceptable radiation dose. Escitalopram is a widely used drug with little side effects. In the long term this study may lead to new treatment options for patients with dystonia.

Contacts

Public
Academisch Medisch Centrum

Postbus 22660
1100 DD Amsterdam
NL
Scientific
Academisch Medisch Centrum

Postbus 22660
1100 DD Amsterdam
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Age between 35 and 80 years old
Primary generalized, segmental or focal dystonia with or without jerks
Informed consent
Botulinum toxin injections in the Academic Medical Center
Stable Tsui scale for severity of dystonia for at least one year

Exclusion criteria

Other neurological conditions at inclusion or in the past
Treatment with deep brain stimulation for dystonia
SSRI use in the past 6 months prior to or during the study
Use of other anti-depressants during the study, especially MAO-B inhibitors
Symptomatic therapy for dystonia other than botulinum toxin, e.g. baclofen or other muscle relaxants.
Use of medication with a known effect on dopamine or serotonin receptors or transporters or with a known interaction with escitalopram (e.g. L-DOPA, dopamine-agonists, ritalin, NSAID*s, aspirin, tryptophan, carbamazepine, etcetera)
Pregnancy or nursing

Study design

Design

Study phase:	3
Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	20-07-2010
Enrollment:	83
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Cipralex
Generic name:	Escitalopram

Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	15-02-2010
Application type:	First submission
Review commission:	METC Amsterdam UMC

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
EudraCT	EUCTR2009-018016-25-NL
ClinicalTrials.gov	NCT2178
CCMO	NL31453.018.10