Biomarkers in Kennedy Disease
The identification of biomarkers as clinical endpoints in drug efficacy trials in Kennedy disease; an international academic multicenter study in Utrecht and Leuven

Published: 25-08-2010
Last updated: 04-05-2024

The main objective of this prospective population based cohort study of patients with KD in the Netherlands and Flemish part of Belgium is to perform multiple tests (i.e. clinical and blood) and genomic profiling to discover possible biomarkers for...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Chromosomal abnormalities, gene alterations and gene variants
Study type	Observational invasive

Summary

ID

NL-OMON32727

Source
ToetsingOnline

Brief title
Biomarkers in Kennedy Disease

Condition

- Chromosomal abnormalities, gene alterations and gene variants
- Endocrine disorders of gonadal function
- Neuromuscular disorders

Synonym
Kennedy Disease, Spinal bulbar muscular atrophy

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Utrecht
Source(s) of monetary or material Support: ALS Centrum Nederland

Intervention

Keyword: biomarkers, KD, Kennedy Disease, SBMA

Outcome measures

Primary outcome

The main study parameters of this study are the correlations between possible biomarkers and the disease progression in patients. Disease status and progression will be measured with the ALS-FRS-R, Norris scale and ShortForm-36. Possible biomarkers are the manual muscle testing, 6minute-walking-test, circumference of limbs, bloodtesten (transaminases, creatine kinase, glucose, HbA1c, prolactine, testosterone, luteinizing hormone, follicle stimulating hormone and sex-hormone-binding-globuline) and genomic profiling of mRNA. With the discovery of (a) new biomarker(s) the sample size calculation for drug efficacy trials in KD can be made.

Secondary outcome

NA

Study description

Background summary

Kennedy Disease (KD), also called spinal and bulbar muscular atrophy, is a neurodegenerative disorder of motor neurons characterized by proximal muscle

weakness and atrophy, bulbar involvement, hand tremor, mild sensory symptoms and gynaecomastia. Although the majority of symptoms comprises motor function, sensory disturbances can also occur. Kennedy Disease is a so-called X-linked polyglutamine disease with an expansion of the CAGrepeat at the N-terminal of the Androgen Receptor (AR) gene. Testosterone plays a major part in the pathogenesis of KD, because binding of testosterone at mutant AR induces a toxic gain of function of the AR with subsequent neuronal degeneration. Despite the knowledge of the pathogenesis and underlying genetic defect, a treatment to cure or stabilize KD has not yet been discovered. Limitations of efficacy trials in KD are the rarity of the disease, the slow progression of the disease and the required extensive trial duration.

Study objective

The main objective of this prospective population based cohort study of patients with KD in the Netherlands and Flemish part of Belgium is to perform multiple tests (i.e. clinical and blood) and genomic profiling to discover possible biomarkers for disease progression in KD. New biomarkers in KD are needed to effectively screen future disease-modifying therapies.

Study design

A prospective, population based cohort study

Study burden and risks

This research will be done in patients with KD. The burden of participation consists of filling out a questionnaire, undergoing physical examination and the drawing of blood samples every six months. The blood amount varies per visit from 2 tubes (3ml + 3.5ml) up to 5 tubes (10ml + 10ml + 3ml + 3.5ml + 2.5ml). Every six months multiple functional tests will be performed. Overall, the burden and risks associated with participation in the study will be minor.

Contacts

Public
Universitair Medisch Centrum Utrecht

Heidelberglaan 100
3584 CX Utrecht
NL
Scientific
Universitair Medisch Centrum Utrecht

Heidelberglaan 100
3584 CX Utrecht
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

1) genetically confirmed KD in patients with more than one of the following symptoms,: muscle weakness, muscle atrophy, bulbar palsy, fasciculations, tremor or mild sensory symptoms
2) male
3) Androgen receptor gene with a CAG repeat exceeding 38 copies
4) age >18 years
5) given written informed consent

Exclusion criteria

1) Androgen receptor gene with CAG repeat of less than 38 repeats
2) female carriers
3) <18 years of age

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	25-01-2011
Enrollment:	50
Type:	Actual

Ethics review

Approved WMO

Date:	25-08-2010
Application type:	First submission
Review commission:	METC NedMec

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	NL29819.041.09