Muscle elastography in neuromuscular disorders and connective tissue disorders

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Objectives in this study areBto investigate:1a.) the presence and distribution of fasciculations of muscle in Amyotrofic Lateral Sclerosis patients1b.) whether muscle elastography can be used as an early diagnostic tool in Amyotrofic Lateral...

Ethical review	Approved WMO
Status	Pending
Health condition type	Musculoskeletal and connective tissue disorders NEC
Study type	Observational non invasive

Summary

ID

NL-OMON30456

Source
ToetsingOnline

Brief title
Muscle elastography

Condition

- Musculoskeletal and connective tissue disorders NEC

Synonym
connective tissue disorders, muscle diseases

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud
Source(s) of monetary or material Support: Ministerie van OC&W,NWO subsidie (AGIKO) drs. N.C. Voermans

Intervention

Keyword: connective tissue disorders, muscle elastography, muscle ultrasound, neuromuscular disorders

Outcome measures

Primary outcome

1.) average deformation of muscle belly in three directions

2.) local deformation of the muscle belly in three directions

3.) verloop in de tijd, de maximale waarde van de contractie, dan wel de tijd

tot maximale contractie en relaxatie worden bepaald.

De bovenstaande elastografische parameters zullen worden gerelateerd met de

aangebrachte stimulus, de gemeten kracht en de verschillende ziektebeelden.2.

De locale vervorming van de spier. Ook deze parameter kan in 3 richtingen

worden gemeten.

3. Van bovenstaande 2 parameters kan het verloop in de tijd, de maximale waarde

van de contractie, dan wel de tijd tot maximale contractie en relaxatie worden

bepaald.

De bovenstaande elastografische parameters zullen worden gerelateerd met de

aangebrachte stimulus, de gemeten kracht en de verschillende ziektebeelden.

Secondary outcome

not applicable

Study description

Background summary

Muscle ultrasound is a method to analyse muscle tissue quantitatively and

qualitatively in order to detect structural changes in muscle, which occur in several neuromuscular disorders. Our centre is currently investigation whether muscle ultrasound is a manner to differentiate various neuromuscular disorders. Elastography is a special ultrasound technique which can be used to detect movements and changes of shape. It is currently being used to detect the vulnerability of atherosclerotic plaques. We will combine these techniques and test the possibilities of muscle elastography. This offers dynamic perspectives which normal muscle ultrasound is lacking.

Study objective

Objectives in this study areBto investigate:
1a.) the presence and distribution of fasciculations of muscle in Amyotrofic Lateral Sclerosis patients
1b.) whether muscle elastography can be used as an early diagnostic tool in Amyotrofic Lateral Sclerosis patients
1c.) whether muscle elastography can be used as a predictor of disease progression in Amyotrofic Lateral Sclerosis patients
1d.) whether muscle elastography can be used to differentiate Amyotrofic Lateral Sclerosis in an early stage from other neuromuscular disorders (e.g. inclusion body myositis)

2.) to investigate whether this technique can be used in (differential) diagnosis of other neuromuscular disorders.

Study design

1.) pilot study on Amyotrofic Lateral Sclerosis patients

2.) elastography study on Amyotrofic Lateral Sclerosis patients, Ehlers-Danlos patients, inflammatory myopathy patients, and patients with a mitochondrial myopathy.

We refer to the protocol for an extensive description.

Study burden and risks

not applicable

Contacts

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Scientific
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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

- fullfilling the clinical criteria for above mentioned disorders
We refer to page 8-10 of the protocol

Exclusion criteria

- concomittant neuromuscular disorder
- diabetes mellitus
- lumbar radicular syndrome
We refer to page 8-10of the protocol

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)

Primary purpose: Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-07-2006
Enrollment:	40
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

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	NL12573.091.07