Effects of a single denosumab injection on reduction of total contact cast treatment and consolidation of bonefractures caused by acute Charcotfoot in patients with diabetes mellitus (CHARCOT study)

Published: 22-11-2016
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This study has been transitioned to CTIS with ID 2024-518637-28-00 check the CTIS register for the current data. Does single subcutaneous injection with denosumab or placebo (NACL 0.9%) induces a shorter Total contact cast treatment duration and...

Ethical review	Approved WMO
Status	Completed
Health condition type	Diabetic complications
Study type	Interventional

Summary

ID

NL-OMON50445

Source
ToetsingOnline

Brief title
Charcot study

Condition

- Diabetic complications

Synonym
charcot foot, diabetes

Research involving

Human

Sponsors and support

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

Intervention

Keyword: charcot foot, denosumab, diabetes, treatment

Outcome measures

Primary outcome

Primary endpoints are time to cession of total contact cast boot (Days) in

combination with curation of foot fractures.

Secondary outcome

Secondary outcomes areprevention of footdeformation (as determined by plantar

pressure measurements before and after TCC) as well as changes in plasma RANKL

levels before and after treatment.

Study description

Background summary

Previous research has shown 0.1-5% of all subjects with diabetes mellitus and concomitant neuropathy develop a Charcot foot , which is a sterile inflammation driving increased osteoclastic actictivity within the bones in the foot. This results in spontaneous and painful fractures of these bones with subsequent deformation of the foot and increased risk of ulcer formation and lower leg amputation. Besides long term treatment with total contact casts (TCC) boot of the affected leg, no treatment is available despite the fact that Charcot foot is associated with increased morbidity and reduced quality of life (not able to work or drive a car and limitied movement due to total contact cast). Although the pathophysiology is largely unknown, a study using bonebiopsies showed increased production of RANKL in the affected bones of the Charcot foot. In the last few years, a subcutaneously injectable RANKL antibody (denosumab) was registered for the treatment of osteoporosis. We therefore would like to

investigate whether denosumab compared to saline placebo has a beneficial effects on bonefracture healing and preventing deformation of the foot in patients with Charcot foot.

Study objective

This study has been transitioned to CTIS with ID 2024-518637-28-00 check the CTIS register for the current data.

Does single subcutaneous injection with denosumab or placebo (NACL 0.9%) induces a shorter Total contact cast treatment duration and faster bonefracture healing (days) and does it prevent deformation of the foot in patients with Charcot foot

Study design

single center randomized dubbel blinded placebo controlled study

Intervention

one 1ml of either denosumab 60mg or 1 ml NACL 0.9% subcutaneous injection

Study burden and risks

Patients will receive one injection with an already registered studydrug (denosumab) or placebo (NACL 0.9%), which can induce temporary discomfort (bruises and muscle aches) . The only side effects known to date of denosumab are itching after injection and temporary gastrointestinal side effects (often) and very rarely osteonecrosis of the jaw upon dental treatment (molar extraction). Subjects are therefore advised not to participate if they have molar extraction planned and cannot undergo this treatment in first year after treatment. Nevertheless the overall risk of this studydrug is low. After injection, patient will be treated according to standard clinical care protocol including daily intake of caclichew tablets (for optimalisation of Calcium and vitamin D) as well as the same routine visits (weekly TCC changes and monthly clinic vists including temperature and foot volume measurements and (standing) x-ray of the affected foot until consolidation of the bonefractures is observed). Two extra visits to AMC are requested for 1) for informed consent by PI and baseline bloodsample + injection and 2) bloodsample at end of study.

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

-Radiologically proven Charcot foot (x ray or MRI of the foot)
- Male/female gender
- Confirmed diagnosis of either type 1 or type 2 diabetes with neuropathy

Exclusion criteria

- Scheduled dental treatment (molar extraction) in the next year
- Not able to give informed consent

Study design

Design

Study phase:	2
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Completed
Start date (anticipated):	05-09-2017
Enrollment:	30
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	prolia
Generic name:	denosumab
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	22-11-2016
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	26-09-2017
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	28-05-2018

Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	08-01-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	20-01-2021
Application type:	Amendment
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
EU-CTR	CTIS2024-518637-28-00
EudraCT	EUCTR2016-003594-17-NL
CCMO	NL59077.018.16