SeMaglutide and Albuminuria Reduction Trial in obese individuals without diabetes

Published: 09-06-2021
Last updated: 17-01-2025

The main objective of the study is to assess the albuminuria lowering effects of semaglutide 2.4 mg s.c. once weekly (Semaglutide 3 mg/ml) compared to placebo in obese/overweight non-diabetic individuals with elevated albuminuria.

Ethical review	Approved WMO
Status	Completed
Health condition type	Metabolism disorders NEC
Study type	Interventional

Summary

ID

NL-OMON50899

Source
ToetsingOnline

Brief title
SMART

Condition

- Metabolism disorders NEC
- Nephropathies

Synonym
Obesity and chronic kidney disease

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: Novo Nordisk

Intervention

Keyword: Albuminuria, Glucagon Like Peptide 1 Receptor Agonist, Obesity, Semaglutide

Outcome measures

Primary outcome

Change from baseline to week 24 in first morning void urinary

albumin:creatinine ratio (UACR).

Secondary outcome

Change from baseline in:

- eGFR (all subjects),

- Iohexol measured GFR (46 subjects),

- change in UACR and eGFR during wash-out from week 24 to 28,

- body weight

- hip circumference,

- systolic/diastolic blood pressure,

- extracellular fluid,

- high sensitivity CRP.

Study description

Background summary

Overweight and obese conditions are a global health problem. A strong interaction exists between obesity and chronic kidney disease (CKD). The pathophysiological mechanisms underlying this interaction are complex and involve hemodynamic perturbations leading to increased intra-glomerular pressure and single nephron hyperfiltration, inflammation, oxidative stress, and apoptosis. Glucagon Like Peptide 1 Receptor Agonist (GLP1-RA) therapies have been introduced as antidiabetic drugs. In addition, GLP1-RA therapies reduce body weight, in patients with and without diabetes, without inducing

hypoglycemia. Moreover, GLP1-RA reduce albuminuria in patients with type 2 diabetes, and liraglutide and semaglutide have been shown to improve various risk markers of CKD progression in non-diabetic obese individuals. It is therefore likely that these agents delay progression of kidney function decline in high risk obese/overweight, non-diabetic individuals.

Study objective

The main objective of the study is to assess the albuminuria lowering effects of semaglutide 2.4 mg s.c. once weekly (Semaglutide 3 mg/ml) compared to placebo in obese/overweight non-diabetic individuals with elevated albuminuria.

Study design

A 24-week randomized placebo controlled double-blind two arm parallel clinical trial with a 4 week wash-out period after 24 weeks double blind treatment to assess off drug effects.

Intervention

Eligible participants will be randomly assigned to 24 weeks treatment with either semaglutide s.c. 2.4 mg once weekly (Semaglutide 3 mg/ml) or placebo. The starting dose of semaglutide will be 0.24 mg subcutaneous injection with increasing doses of semaglutide at 4, 8, 12, and 16 weeks to 0.5, 1,0, 1.7 and 2.4 mg.

Study burden and risks

Patients visit the outpatient clinic on a more regular basis than standard patient care - i.e. 10 visits to the out-patient clinical department for clinical assessments during a total study duration of 28 week. A blood sample is collected for clinical chemistry at each visit. At screening, randomization, week 20, 22, 24 and 28 three first morning void urine samples will be collected. At other visits a single first morning void urine is collected. In 46 patients, non-radioactive iohexol clearance will be assessed to determine GFR. Iohexol clearance measurements will be performed at three visits: at the start and at the end of the 24-weeks double blind treatment period as well as at the end of the wash-out period at week 28. Extracellular volume and total body water will be measured at randomization, week 16, 20 24 and 28 with bio-impedance spectroscopy. There are no direct benefits for the patients to be included and participation is on a voluntary basis. Participants can withdraw from participation at any time without it affecting their standard of medical care.

Contacts

Public
Universitair Medisch Centrum Groningen

Hanzeplein 1
Groningen 9700 RB
NL
Scientific
Universitair Medisch Centrum Groningen

Hanzeplein 1
Groningen 9700 RB
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

• Age >= 18 years
• Body Mass index >= 27 kg/m2
• Albuminuria >= 30 mg/g and <= 3500 mg/g
• eGFR >= 25 ml/min/1.73m2
• Stable renal function prior to entry into the study defined as no more than 30% eGFR change in
3 months prior to enrolment
• Signed Informed Consent

Exclusion criteria

• Diagnosis with type 1 or type 2 Diabetes
• Hba1c >= 6.5% at screening
• Cardiovascular disease event in 3 months prior to enrollment
• Treatment with GLP-1 RA < 4 weeks prior to screening
• Uncontrolled thyroid disease TSH>6.0 mIU/L or <0.4 mIU/L at screening
• Acute pancreatitis < 180 days prior to screening
• History or presence of chronic pancreatitis
• Females of child-bearing potential who are pregnant, breast-feeding or have intention of
becoming pregnant or are not using adequate contraceptive measures

Study design

Design

Study phase:	3
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):	14-03-2022
Enrollment:	40
Type:	Actual

Medical products/devices used

Generic name:	SFB7 bioimpedance spectroscopy device
Registration:	Yes - CE intended use
Product type:	Medicine

Brand name:	Ozempic
Generic name:	Semaglutide
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	09-06-2021
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO Date:	30-09-2021
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO Date:	16-04-2022
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO Date:	22-05-2022
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	EUCTR2021-001247-27-NL
ClinicalTrials.gov	NCTtoevoegen
CCMO	NL77268.042.21

Study results

Date completed: 28-05-2024

Results posted: 14-11-2024

First publication
03-09-2024