A single centre, open label trial investigating the absorption, metabolism and excretion of somapacitan after single subcutaneous dosing in healthy male subjects

Published: 25-10-2016
Last updated: 11-04-2024

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

Summary

ID

NL-OMON42854

Source
ToetsingOnline

Brief title
Somapacitan 3H-AME study

Condition

- Other condition

Synonym
growth hormone deficiency

Health condition

groeihormoondeficientie

Research involving
Human

Sponsors and support

Primary sponsor: Novo Nordisk A/S
Source(s) of monetary or material Support: Farmaceutische industrie

Intervention

Keyword: GHD, Somapacitan

Outcome measures

Primary outcome

The primary endpoints will be total radioactivity excreted in urine, faeces,

and expired air (% of dose) assessed up to 35 days after trial product

administration:

- Total amount of [3H]-somapacitan related material excreted in urine (% of

dose)

- Total amount of [3H]-somapacitan related material excreted in faeces (% of

dose)

- Total amount of [3H]-somapacitan related material excreted in expired air (%

of dose)

Secondary outcome

To be calculated from first administration of trial product and up until day 36

(final visit):

- Total recovery of administered 3H label (sum of urine, faeces and expired air)

- Blood to plasma ratio of [3H]-somapacitan related material

Study description

Background summary

Somapacitan is a new investigational compound that may eventually be used for the treatment of growth hormone deficiency in children (GHD) and in adults (AGHD). Growth hormone deficiency slows the growth and physical and mental development in children. In adults, growth hormone (GH) deficiency leads to increased body fat, decreased bone density and muscle mass, and increased risk for cardiac and arterial diseases. The study compound is a modified human GH, which has been modified to prolong its efficacy with the aim of reducing the frequency of injections. Normal GH has to be administered once daily as a subcutaneous (sc) injection (an injection under the skin) whereas somapacitan is expected to be effective when administered as a sc injection once weekly. Somapacitan is in development and is not registered as a drug but has been given to humans before.

Study objective

The purpose of the study is to investigate how quickly and to what extent somapacitan is absorbed, metabolized (broken down) and eliminated from the body (this is called pharmacokinetics). Somapacitan will be labeled with tritium (3H, a radioactive hydrogen isotope) and is thus radioactive (also called radiolabeled). In this way somapacitan can be traced in blood, urine, feces and expired air. It will also be investigated to what extent somapacitan is tolerated.

Study design

At the first visit the volunteer will have to stay in the clinical research center in Groningen, location Martini hospital, for 16 days (15 nights).

The further participation to the study will depend on the amount of radioactivity left in urine and feces on Day 15. The amount of radioactivity in urine and feces will be measured from Day 13 onwards. The volunteer should be aware that when the radioactivity levels are still above the pre-defined levels on Day 15, additional 24-hour periods (maximum 3 periods) will be scheduled for the collection of urine and feces until the radioactivity levels are below the pre-defined levels.

The 24-hour periods will take place on Day(s) 21-22, 28-29 and 35-36 and the volunteer is expected in the clinical research center at 11:00 h in the morning

on Day(s) 21, 28 and 35; the volunteer can leave after the 24-hour collection interval. The volunteer will be informed whether he is expected for an additional 24-hour collection interval as soon as the data are available.

During the study the volunteer will receive radiolabeled somapacitan as a sc injection.

Intervention

The volunteer will receive a single dose of 6 mg radiolabeled somapacitan as a sc injection.

Study burden and risks

The safety profile of somapacitan has been evaluated in four completed clinical studies in healthy subjects, and in adults and children with growth hormone deficiency. The subjects received single or multiple doses of the study compound. Overall, the study compound was well tolerated and most adverse events were mild.

The expected adverse events were weight increased, fatigue, blood glucose increased, edema, asthenia, headache, paresthesia, but some patients did not experience adverse events at all. Subcutaneous administration of somapacitan can, like any other drugs for injection, occasionally lead to undesired local side effects, such as redness, swelling, itching, and tenderness of the skin at the point of injection. In the four completed studies, the local injections site reactions were overall mild and transient.

Overall, the safety profile of somapacitan observed so far is similar to the existing growth hormone products for daily administration e.g. Norditropin®. The safety profile of Norditropin® has been firmly established by the results of clinical trials and the wide post-authorization use globally as described in Norditropin®FlexPro® package leaflet. Most frequent adverse events are peripheral edema, headache, paresthesia, arthralgia, joint stiffness, and myalgia.

This study compound might trigger the formation of antibodies to growth hormone which has been observed previously with other protein hormones including human growth hormone. Antibody formation may hinder the efficacy of the treatment. However, in healthy subjects and in adults and children with growth hormone deficiency treated with the study compound, antibody development was not observed.

In rare cases, the injection of protein drugs including somapacitan and ingredients can cause local or systemic allergic reactions. Systemic reactions can cause e.g. sudden breathing problems, nausea and vomiting, fast heart beat

or dizziness. If these reactions are observed, you should contact a doctor immediately. In healthy subjects and in adults and children with growth hormone deficiency, allergic reactions related to the study compound were not observed.

In order to take blood samples, your doctor will need to draw blood from your veins. Occasionally, you may feel a little discomfort, bruising, bleeding or swelling at the site of needle insertion for withdrawal of the blood samples. There is also a very small risk of infection at the place where the needle goes into your vein.

In this study radiolabeled somapacitan will be used. The amount of radioactivity in this dose will be approximately 20 MBq (MBq = megaBecquerel, this is a unit to express the amount of radioactivity in the study compound). The average environmental background radiation burden in The Netherlands is approximately 2 mSv per year (mSv = milliSievert, this unit indicates the burden on the human body; thus the effect on the human body of the amount of radioactivity administered). The additional radiation burden in this study due to the administration of approximately 20 MBq radiolabeled somapacitan is calculated to be less than 0.5 mSv. This is approximately 25% of the average annual radiation burden.

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

healthy male subjects
45-64 yrs, inclusive
BMI: 20.0-29.9 kg/m2, inclusive

Exclusion criteria

Suffering from hepatitis B, hepatitis C, cancer or HIV/AIDS. In case of participation in another drug study within 90 days before the start of this study or being a blood donor within 60 days from the start of the study. In case of donating more than 400 mL of blood in the 90 days prior the start of this study.

Study design

Design

Study type: Interventional

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	11-11-2016
Enrollment:	7
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Somapacitan
Generic name:	N/A

Ethics review

Approved WMO Date:	25-10-2016
Application type:	First submission
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	09-11-2016
Application type:	First submission
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)

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	EUCTR2016-000096-24-NL
CCMO	NL59583.056.16

Study results