

# A clinical study to compare the performance of a novel solid dose injection of octreotide with a reference product

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| <b>Submission date</b><br>02/10/2017   | <b>Recruitment status</b><br>No longer recruiting              | <input type="checkbox"/> Prospectively registered    |
| <b>Registration date</b><br>12/10/2017 | <b>Overall study status</b><br>Completed                       | <input type="checkbox"/> Protocol                    |
| <b>Last Edited</b><br>12/10/2017       | <b>Condition category</b><br>Nutritional, Metabolic, Endocrine | <input type="checkbox"/> Statistical analysis plan   |
|  |  | <input type="checkbox"/> Results                     |
|  |  | <input type="checkbox"/> Individual participant data |
|  |  | <input type="checkbox"/> Record updated in last year |

## Plain English summary of protocol

### Background and study aims

The aim of this study is to assess a single treatment dose delivered by a needle-free solid dose injection system (SDI) being developed by the sponsor, to determine whether it gives similar results to an already marketed version of the drug delivered by injection under the skin (subcutaneous).

### Who can participate?

Healthy male volunteers aged 24–45

### What does the study involve?

After giving consent participants undergo screening procedures 28 days before checking into the study unit. At screening participants are given a demonstration of the test device by using a non-firing dummy device to demonstrate that they are comfortable with the sensation and experience of using the device. Those who clearly demonstrate that they are comfortable with it and pass screening requirements are invited to return for treatment period 1. Each participant stays in the study unit on the day before treatment period 1 (day -1) until the end of treatment period 2 on day 3 (3 nights). In treatment period one the participants receive a single dose of the treatment using the test SDI device. In treatment period two the participants receive a single dose of the marketed treatment by subcutaneous injection. All participants receive both treatments in a random order with a 12-hour break in between periods. Several assessments are carried out for safety and to compare drug levels in the bloodstream. Participants are asked a number of questions regarding both methods of delivering the drug after both periods. 12 hours after receiving the second dose in period 2 participants can leave the unit and they return for an assessment 2 - 7 days later.

### What are the possible benefits and risks of participating?

There are no intended clinical benefits to taking part, other than receiving a thorough medical examination. There is a risk that subjects may experience side effects from the drug octreotide although the risks are minimised by the low dose given in this study and the break between doses. All reported side effects have been demonstrated to be reversible upon withdrawal of

the medication. With any drug, adverse effects could occur which have not previously been seen. The drug/procedures being tested may cause some side effects. If serious side effects occur, participants receive immediate treatment and medical care as required. Some of the procedures may cause discomfort. Blood pressure, pulse and temperature are recorded, which may cause a feeling of tightness as the pressure of the cuff increases, and may cause some irritation at the sites where pad, sensors or equipment are attached. During the electrocardiogram small sticky patches are stuck to the chest, wrist and ankles, which may require small patches of hair to be shaved in these areas, and the sticky pads may cause minor irritation and be uncomfortable to remove. Blood samples are taken using a needle, which may cause some discomfort or bruising and there is a very small risk of infection. Some people may feel light headed after blood samples are taken which may result in fainting. During one treatment period medication is injected just under the skin, which may cause discomfort. The site where the needle is inserted can become bruised and similar to blood samples there is a small risk of infection. It is hoped that the new SDI device will cause little to no pain.

Where is the study run from?  
Biokinetic Europe Ltd (UK)

When is the study starting and how long is it expected to run for?  
May 2016 to May 2017

Who is funding the study?  
Glide Pharmaceutical Technologies Ltd (UK)

Who is the main contact?  
Christopher Macgregor  
enquiries@enesipharma.com

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Mr Christopher Macgregor

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

OCT/002

## **Study information**

### **Scientific Title**

A clinical study to assess the bioavailability, tolerability, pharmacokinetics and safety of a solid dose injection of octreotide compared with a reference product

### **Study objectives**

Octreotide delivered subcutaneously by the Glide Solid Dose Injection system gives comparable pharmacokinetics to the marketed product delivered by injection under the skin.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Health and Social Care Research Ethics Committee A (HSC REC A), 29/02/2016, ref: 16/NI/0032

### **Study design**

Interventional open-label randomised single-centre two-way crossover single-dose trial

### **Primary study design**

Interventional

### **Secondary study design**

Randomised cross over trial

### **Study setting(s)**

Other

### **Study type(s)**

Treatment

### **Participant information sheet**

Not available in web format, please use the contact details to request a patient information sheet

### **Health condition(s) or problem(s) studied**

Acromegaly

### **Interventions**

Eligible subjects will be invited to attend the study unit to undergo screening procedures 28 days before checking into the study unit, which includes:

1. Giving informed consent to participate in the study
2. Review of inclusion/exclusion criteria and eligibility
3. Recording of information: demography, skin classification, medical history, medication history
4. Physical examination

5. Height/weight, BMI
6. Assessment of the ear, nose/throat and cardiovascular system, pulmonary system, skin, abdomen and nervous system.
7. Urine sample for drugs of abuse test
8. 12-lead ECG
9. Blood and urine samples for safety testing
10. Subjects will be shown the Glide device and have its action demonstrated. Using a non-firing dummy device, they will then demonstrate tolerance by actuating into the thigh

After checking into the study unit on Day -1 subjects will undergo the following:

1. Check adherence to study restrictions
2. Record any medications taken since the screening visit
3. Check and adverse events since the screening visit
4. Physical examination including urine sample for drugs of abuse and alcohol breath test

Before the study drug is administered the following assessments will be performed:

1. General health check
2. Measurement of weight
3. Vital signs
4. 12-lead ECG
5. Recording of any medications since the previous assessment
6. Recording of any adverse events since the previous assessment

Subjects will be randomised to receive either:

Treatment A: 0.1 mg of Octreotide administered via the Glide SDI device being tested, into the thigh

Treatment B: 0.1 mg of Octreotide administered via subcutaneous injection into the thigh

Dosing was randomised using a randomisation code, which was provided to the site, to determine device (SDI or s.c. injection). The randomisation list was generated by Eurofins Optimed using SAS statistical software (version 9.3). According to inclusion/exclusion criteria, a chronological randomisation number – composed of four digits (from 1001 to 1020) – was given to eligible subjects. The same randomisation numbers plus 100 would be assigned to replacement subjects.

After completing treatment period 1, the following will be performed:

1. Vital signs - numerous measurements
2. 12-lead ECG
3. Blood samples for the analysis of the study drug
4. Blood and urine samples for safety testing

Subjects will be asked a number of questions regarding administration of the drug to assess tolerability and a photograph will be taken of the injection site.

There will be a 12-hour 'washout' period after receiving treatment 1 and before receiving treatment 2. Treatment Period 2 will follow the same pattern as treatment period 1, but subjects will receive the alternative treatment to the one they received in treatment period 1. All subjects will check out of the study unit 12 hours after treatment 2.

A post-study medical will be carried out between 2 and 7 days after leaving the study unit. At this visit the following assessments will be carried out:

1. Physical examination including weight, vital signs, assessment of ear, nose and throat, cardiovascular system, pulmonary system, skin, abdomen and nervous system
2. Urine sample for drugs of abuse test

3. 12-lead ECG
  4. Blood and urine samples for safety testing
  5. Recording of any adverse events since leaving the unit
  6. Recording of any medications taken since leaving the unit
- Subjects will again be asked to give feedback on the devices by answering questions on both devices.

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

Octreotide

**Primary outcome measure**

Pharmacokinetic endpoint:

Ratio of geometric means (test product and reference product) and their 90% confidence intervals (CIs) for plasma AUC<sub>0-t</sub>, and C<sub>max</sub> of octreotide, calculated based on blood samples taken at 0, 15, 20, 30, 45, 60 and 90 minutes, and 2, 4, 6, 8, 10, 12 hours post dosing

**Secondary outcome measures**

Safety endpoints:

1. Treatment emergent AEs, recorded if reported from time of signed consent to completion of the last study-related procedure
2. Vital signs, recorded pre-dose, 60 minutes, 2 hours, 12 hours post dose in each treatment period
3. Physical examination (including ear, nose, throat, cardiovascular system, pulmonary system, skin, abdomen, neurological system and body weight), recorded on day 1, day 3 and post study
4. Twelve-lead ECG, recorded pre-dose, 12 hours post dose in each treatment period
5. Safety laboratory evaluations (clinical chemistry, haematology and urinalysis)

Pharmacokinetic parameters of test and reference products:

1. Median difference in t<sub>max</sub> of octreotide and its 90% CI
2. AUC<sub>0-∞</sub>
3. t<sub>1/2</sub>/K<sub>el</sub>

These will be assessed or measured at 0, 15, 20, 30, 45, 60 and 90 minutes, and 2, 4, 6, 8, 10, 12 hours post dosing

Subject tolerance assessment of drug delivery system:

1. Tolerability: question subject and visually examine injection sites
2. Pain: subjects indicate injection-site pain by use of a 100mm visual analogue scale, with no pain on the left and worst possible pain on the right border

Exploratory endpoint(s):

Subject feedback on the drug delivery systems, using questionnaire at the end of the treatment period

**Overall study start date**

17/05/2016

**Completion date**

23/05/2017

## Eligibility

**Key inclusion criteria**

1. Healthy, male subjects
2. Aged 24–45 years
3. A body mass index (defined as body mass in kilograms divided by the square of body height in metres) of 18.5–30 kg/m<sup>2</sup>
4. Willing to give written consent after reading the study information and informed consent form (ICF), and discussing the trial with the investigator or an appropriate member of the study staff
5. Judged by the investigator to be capable of understanding and complying with the requirements of the trial
6. The subject's primary care physician has confirmed that within the 12 months before first dosing there is nothing in their medical history that would preclude their enrolment into a clinical study
7. Able to tolerate a dummy actuation from the Glide SDI device
8. Willing to give written consent to have data entered into The Over Volunteering Prevention System
9. Subjects must have type I–III grade skin according to the Fitzpatrick prototyping scale to allow for standardisation of photographs taken during the study

**Participant type(s)**

Healthy volunteer

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Male

**Target number of participants**

20

**Key exclusion criteria**

1. Use herbal supplements for 14 days prior to dosing and be unwilling to stop these for the duration of the study
2. Have a known hypersensitivity to any of the ingredients or excipients of the study treatment
3. Have been exposed to another investigational drug within 90 days prior to start of the treatment period 1
4. Have a history of major surgical procedure within 12 weeks prior to the start of the treatment period 1 or have an expectation of a major surgical procedure during the study
5. Have a known history of gallstones
6. Have a prior or ongoing medical condition (e.g., concomitant illness, psychiatric condition,

behavioural disorder, alcoholism, drug abuse), medical history, physical examination findings, ECG findings, or laboratory abnormality that, in the Investigator's opinion, could adversely affect the safety of the subject, makes it unlikely that the course of treatment or follow-up would be completed, or could impair the assessment of study results

7. History of clinically significant allergies that, in the opinion of the Investigator would contraindicate their participation

8. History of, or a reason to believe that a subject has a history of, drug or alcohol abuse within the previous 5 years and at the investigator's discretion

9. Positive test for alcohol or drugs of abuse, including amphetamine, barbiturates, benzodiazepines, cannabis, cocaine, methadone, methamphetamine, opiates (unless this can be explained by the subject's regular prescribed therapy), phencyclidine and tricyclic antidepressants at Screening or on Day -1 (unless this can be explained by the subject's medication)

10. The use of any over-the-counter medicine in the week prior to drug administration, with the exception of paracetamol (acetaminophen)

11. Subjects must be none smokers or an ex-smoker for at least 9 months prior to screening

12. The subject's General Practitioner objects to them entering the trial

13. Positive results of HBsAg, hepatitis C antibody, or human immunodeficiency virus (HIV) tests

14. Unlikely to co-operate with the requirements of the study

15. Tattoos at the site of injection

16. Eczema or any significant skin condition that, in the opinion of the investigator, would make it difficult to analyse photographs

#### **Date of first enrolment**

19/04/2016

#### **Date of final enrolment**

10/05/2016

## **Locations**

#### **Countries of recruitment**

Northern Ireland

United Kingdom

#### **Study participating centre**

**Biokinetic Europe Ltd**

14 Great Victoria Street

Belfast

United Kingdom

BT2 7BA

## **Sponsor information**

#### **Organisation**

Glide Pharmaceutical Technologies Ltd

**Sponsor details**

45B/C Western Avenue  
Milton Park  
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**Sponsor type**

Industry

**Funder(s)****Funder type**

Industry

**Funder Name**

Glide Pharmaceutical Technologies Ltd (self-funded)

**Results and Publications****Publication and dissemination plan**

The intention is to publish and disseminate the results of the study in:

1. Peer reviewed scientific journals
2. Internal reports
3. Conference presentations
4. Publication on the Glide website

The exact content and publication date is to be determined

As the results of the study are commercially sensitive, the trialists do not intend to publish full data. The high level results of the trial were published on the prnewswire.com website on 28/06/2016 (<http://www.prnewswire.com/news-releases/glide-technologies-announces-successful-clinical-proof-of-concept-study-with-its-novel-octreotide-solid-dose-formulation-delivered-via-sdi-584642901.html>).

**Intention to publish date**

23/05/2018

**Individual participant data (IPD) sharing plan**

The participant level data is commercially sensitive, and therefore will not be made available. Data will be held by the sponsor as part of the Trial Master File (TMF).

**IPD sharing plan summary**

Not expected to be made available



**Study outputs**

| Output type                          | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|--------------------------------------|---------|--------------|------------|----------------|-----------------|
| <a href="#">HRA research summary</a> |         |              | 28/06/2023 | No             | No              |