

GLIDE: Gastric band and Liraglutide Intervention in Diabetes Evolution

Submission date 21/11/2016	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 28/11/2016	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 10/05/2021	Condition category Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Type 2 diabetes mellitus (T2DM) is a growing problem worldwide. People with T2DM have difficulty controlling their blood sugar (glucose) as they do not produce enough insulin to function properly (insulin deficiency), or that the body's cells don't react to insulin as they should do (insulin resistance). One of the most common causes of T2DM is obesity. Although weight loss can help significantly in the treatment of T2DM, the treatments used for diabetics can make it harder for a person to lose weight. Bariatric surgery (weight loss surgery) is a drastic measure used to help people who are dangerously overweight. Laparoscopic adjustable gastric band (LAGB) is a surgical weight-loss (bariatric) procedure increasingly used in the UK. It involves surgically placing a band around the top portion of the stomach to lower the capacity of the stomach, helping the person to lose weight. Although other bariatric surgery procedures produce more predictable weight reduction and diabetes resolution, LAGB is much easier to perform, has a significantly lower death rate and is cheaper. It is therefore important to explore mechanisms to improve LAGB success. Liraglutide is a drug which is similar to a natural gut hormone produced by the body which stimulates post-meal insulin secretion and reduces appetite. The aim of this study is to find out whether a combination of liraglutide and LAGB is likely to offer extremely obese patients with diabetes the opportunity of achieving significant weight loss and diabetes resolution with minimal surgical risk.

Who can participate?

Obese adults with T2DM.

What does the study involve?

Participants are randomly allocated to one of two groups. Those in the first group undergo treatment with liraglutide in addition to their usual treatment six weeks after their gastric band surgery. Those in the second group undergo treatment with a placebo (dummy medicine) in addition to their usual treatment six weeks after their gastric band surgery. In both groups, the medication is injected once a day using a pen-injector. Specific instructions regarding how to use the pen-injector and the drug regime are provided. Patients receive treatment for 6 months and continue to be followed up for another 6 months after treatment has finished. Participants are

required to attend six hospital visits and take part in one telephone call during the trial. The visits include the collection of blood samples, completion of questionnaires and other information required for the trial.

What are the possible benefits and risks of participating?

Participants will have frequent contact with members of the research team so any problems can be quickly identified and addressed. Test results and explanations will be provided so patients will have more information about their health, this can help educate and encourage patients to make changes to their lifestyle and diabetes care. Participating in this research may lead to changes in the future that will be beneficial to others undergoing gastric band surgery. From visit two, travel expenses will be available up to a maximum of £10 per visit. There are some risks associated with participating in the study. Blood samples will need to be taken as part of the trial and there is a small chance of fainting, bruising, bleeding, swelling or infection where the needle is inserted. The risk will be minimised by having qualified and experienced staff members perform this procedure. Where possible, research blood samples will be taken at the same time as routine care blood samples so patients will not be exposed to additional needles for the research. There is also a time commitment in participating, however, appointments and tests will be scheduled alongside routine visits if possible. If participants are randomly allocated to take *Liraglutide*, there are some side effects associated with this medication, which will be explained prior to agreeing to take part.

Where is the study run from?

Guy's and St Thomas' NHS Foundation Trust, Heartlands Hospital, Southmead Hospital (UK)
(updated 10/05/2021, previously:

1. Guy's Hospital (UK)
2. St Thomas' Hospital (UK)
3. King's College Hospital (UK)
4. Musgrove Park Hospital (UK))

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

June 2015 to March 2021 (updated 10/05/2021, previously: June 2020)

Who is funding the study?

Novo Nordisk Limited (UK & Ireland)

Who is the main contact?

Ms Gemma Cutting
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Contact information

Type(s)

Public

Contact name

Ms Gemma Cutting

Contact details

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Additional identifiers

EudraCT/CTIS number
2015-005402-11

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
32498

Study information

Scientific Title

The Impact of the Combination of the GLP-1 Analogue Liraglutide (Victoza®) and Laparoscopic Adjustable Gastric Banding (LAGB) on Diabetes Control

Acronym

GLIDE

Study objectives

The aim of this study is to evaluate the impact of liraglutide plus laparoscopic adjustable gastric band (LAGB) on diabetes control.

Ethics approval required

Old ethics approval format

Ethics approval(s)

London – Westminster Research Ethics Committee, 20/07/2016, ref: 16/LO/1144

Study design

Randomised; Interventional; Design type: Treatment, Drug

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Treatment

Participant information sheet

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

Health condition(s) or problem(s) studied

Specialty: Diabetes, Primary sub-specialty: Type 2; UKCRC code/ Disease: Metabolic and Endocrine/ Diabetes mellitus

Interventions

Following laparoscopic adjustable gastric band (LAGB), patients will be randomised to receive liraglutide or placebo. Randomisation will be carried out by a computer generated randomisation package. Patients will be stratified by duration of diabetes, BMI, centre and use of insulin through minimisation with a random component to ensure balance between treatment arms. Patients will be assigned to either injectable Liraglutide treatment or injectable placebo. Liraglutide (or placebo) will be titrated as recommended to the maximum tolerated dose or 1.8 mg. Dose escalation will be based on tolerability of previous dose. Participants will inject liraglutide/placebo daily for 6 months (including titration phase). Participants will then be followed up for a further 6 months after they have stopped taking the intervention.

Intervention Type

Drug

Drug/device/biological/vaccine name(s)

Liraglutide

Primary outcome measure

Difference in glycated haemoglobin (HbA1C) is measured using a glycated haemoglobin blood test at baseline and 6 months.

Secondary outcome measures

1. Difference in glycated Haemoglobin (HbA1c) is measured using a glycated haemoglobin blood test at baseline and 12 months
2. Percentage of patients achieving diabetes remission comprising a HbA1c level of less than 6.5% and off all diabetes medications is measured by HbA1c blood test and clinical review /patient interview at months 3, 6, 9 and 12.
3. Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) is measured using fasting glucose, insulin and c-peptide blood tests at baseline, 6 and 12 months
4. Number of reported hypoglycaemic episodes are measured by clinical interview at months 3, 6, 9 and 12.
5. Anthropometric measures and body composition (height, weight, waist and neck circumference, BMI and Bioimpedance (Body Fat via Bioelectrical Impedance)) are measured at baseline, 3, 6 and 12 months
3. Physical activity levels are recorded using the General Physical Activity Questionnaire at baseline, 6 and 12 months
4. Cardiovascular disease risk factors (Systolic and Diastolic BP; total cholesterol, HDL-cholesterol, LDL-cholesterol and Triglyceride) are measured using a sphygmomanometer and blood testing at baseline, 3, 6 and 12 months
5. Quality of life is measured using the Impact of Weight on Quality of Life-Lite (IWQoL-Lite)

Questionnaire, at baseline, 3, 6 and 12 months

6. Depression, anxiety and emotional distress is measured using the Hospital Anxiety and Depression Scale (HADS) at baseline, 6 and 12 months.

6. Adverse event rates recorded by clinical interview at baseline, 3, 6 and 12 months

Overall study start date

01/06/2015

Completion date

31/03/2021

Eligibility

Key inclusion criteria

1. Adult patients with type 2 diabetes
2. HbA1c $\geq 6.5\%$ and $< 11\%$ at screening
3. Age 18-70 years
4. Patients with a BMI equal to or above 30kg/m² (or 27kg/m² and of Asian family origin) at screening
5. Patients undergoing LAGB based on NICE criteria and multidisciplinary assessment
6. Written informed consent to participate

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Upper age limit

70 Years

Sex

Both

Target number of participants

Planned Sample Size: 152; UK Sample Size: 152

Key exclusion criteria

1. Patients with type 1 diabetes (based on clinical history)
2. Patients who refuse or are unable to have injectable treatment post operatively
3. Patients with any disability preventing use of treatment
4. Patients with known delayed gastric emptying (diagnosed by clinical history and judgment)
5. Any contraindication to liraglutide use (inflammatory bowel disease, ketosis, diabetic gastroparesis (based on clinical assessment), DPP-4 inhibitors, pregnancy and breast-feeding, renal impairment (eGFR $< 30\text{mL/min/1.73m}^2$) and hepatic impairment; acute pancreatitis (persistent, severe abdominal pain))
6. Type 2 diabetes controlled purely through diet

7. Pregnancy or breastfeeding or planning to become pregnant during the study period and women of childbearing age who are not using adequate contraceptive methods (defined as: established use of oral, injected or implanted hormonal methods of contraception; placement of intrauterine device or intrauterine system; barrier methods of contraception (condom or occlusive cap with spermicidal foam/gel/film/cream/suppository); female sterilisation; male sterilisation (where partner is the sole partner of subject); true abstinence (when in line with preferred and usual lifestyle)
8. Personal or family history of thyroid cancer or multiple endocrine neoplasia
9. History of previous pancreatitis
10. Administration of a GLP-1 agonist or DPP-IV inhibitor after a time-point one week prior to surgery
11. Patients who display insufficient understanding of the trial procedures following reasonable attempts by the investigator to provide information, at the discretion of the investigator

Date of first enrolment

30/11/2016

Date of final enrolment

31/03/2020

Locations

Countries of recruitment

England

United Kingdom

Study participating centre

Guy's and St Thomas' NHS Foundation Trust

Great Maze Pond

London

United Kingdom

SE1 9RT

Study participating centre

Heartlands Hospital

Heart of England NHS Foundation Trust

Bordesley Green East

Birmingham

United Kingdom

B9 5SS

Study participating centre

Southmead Hospital

North Bristol NHS Trust

Southmead Road
Westbury-On-Trym
Bristol
United Kingdom
BS10 5NB

Sponsor information

Organisation

NIHR Guy's & St Thomas' NHS Foundation Trust (GSTFT)/King's College London (KCL) Biomedical Research Centre

Sponsor details

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Sponsor type

Hospital/treatment centre

ROR

<https://ror.org/00j161312>

Funder(s)

Funder type

Research organisation

Funder Name

Novo Nordisk Limited (UK & Ireland)

Results and Publications

Publication and dissemination plan

Planned publication in a high impact journal

Intention to publish date

01/03/2022

Individual participant data (IPD) sharing plan

The current data sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No