The SUGAR-DIP trial: Oral medication strategy versus insulin for diabetes in pregnancy

Published: 09-11-2016
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Primary objective: To evaluate the effect of treatment with oral hypoglycemic agents (OHA) on the incidence of large-for-gestational-age (LGA) infants in women with GDM requiring medication, compared to insulin (INS) treatment.Secondary objectives:...

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Glucose metabolism disorders (incl diabetes mellitus)
Study type	Interventional

Summary

ID

NL-OMON47522

Source
ToetsingOnline

Brief title
SUGAR-DIP trial

Condition

- Glucose metabolism disorders (incl diabetes mellitus)
- Pregnancy, labour, delivery and postpartum conditions

Synonym
diabetes in pregnancy, Gestational diabetes

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: ZonMw

Intervention

Keyword: gestational diabetes, insulin, macrosomia, oral antidiabetic agents

Outcome measures

Primary outcome

Primary outcome measure will be large-for-gestational-age (birthweight > 90th percentile)

Secondary outcome

Secundary outcome measures:

• Maternal hypoglycemia (biochemical hypoglycemia <3.9 mmol/l, symptomatic hypoglycemia and severe hypoglycemia prompting the need for help by another person)

• Primary / secondary caesarean section

• Pregnancy related hypertensive disorders: pregnancy induced hypertension, preeclampsia

• Preterm delivery (<37 weeks of gestation)

• Neonatal hypoglycemia: moderate (serum glucose <2.6 mmol/L), severe (serum glucose <2.0 mmol/L)

• Neonatal hyperbilirubinemia requiring phototherapy

• Neonatal Medium care / NICU admission

Additional outcome measures:

• Patient satisfaction and health-related quality of life

• Cost effectivity

Study description

Background summary

The incidence of gestational diabetes mellitus (GDM) is quickly rising and is currently complicating approximately 5-10% of all pregnancies in the Netherlands. This accounts for 13.000 cases each year. GDM carries significant maternal and perinatal risks such as macrosomia, a large for gestational age infant, increased risk of caesarean section and other peripartum complications. In GDM patients, diet adjustment is the first treatment to regulate blood glucoses. When dietary interventions in GDM fail to normalize blood glucoses, treatment with antidiabetic medication is indicated. Insulin is the treatment of choice in the Netherlands. However, insulin treatment is laborious and a significant burden to both patients and health care resources. Metformin and glibenclamide are oral hypoglycemic agents. Both have been extensively studied separately and found to be safe and effective in the treatment of GDM. A primary treatment strategy with metformin and glibenclamide seems appropriate but there is no current comparative data with standard treatment in the Netherlands.
In the SUGAR-DIP trial, a randomised controlled trial, we investigate the efficacy and safety of oral hypoglycemic agents in a two-step method, starting with metformin and adding glibenclamide if needed, compared to standard treatment with insulin in patients with GDM.

Study objective

Primary objective:
To evaluate the effect of treatment with oral hypoglycemic agents (OHA) on the incidence of large-for-gestational-age (LGA) infants in women with GDM requiring medication, compared to insulin (INS) treatment.

Secondary objectives:
To study the effect of OHA treatment compared with INS treatment, on maternal and perinatal outcomes, including maternal glycemic control, pregnancy related hypertensive disorders, maternal weight gain, premature delivery, birth injury, neonatal hypoglycemia and neonatal NICU admission.

Additional objective:
To evaluate patient experience and cost-effectiveness of oral hypoglycemic agents compared to insulin.

Study design

Open label multicenter non-inferiority randomized controlled trial (RCT)

Intervention

Randomization to either treatment with the oral antidiabetic agents (metformin and if necessary supplemental glibenclamide) or standard treatment with insulin.

Study burden and risks

Nature and extent of the burden: uring the trial three questionnaires will be issued to patients. Answering these questionnaires will take approximately 30-40 minutes per questionnaire. Also participants will be asked to record their glucoses in a diary on a daily basis (routine care) with some additional quiestions (1-2 minutes extra)

Risks: treatment of gestational diabetes with either metformin or glibenclamide has been investigated worldwide and proven to be safe.

Benefit: women treated with oral antidiabetic agents may achieve adequate glucose control with the benefit of a better tolerated and less invasive administration of medication.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Inclusion criteria

- Aged 18 years or over
- Singleton pregnancy
- Diagnosis of GDM as per national guidelines
- Indication for pharmacological treatment of GDM
- Gestational age between 16 and 34 weeks
- Ability to understand Dutch or English
- Ability to provide written informed consent

Exclusion criteria

- Known pre-existent type 1 or type 2 diabetes mellitus
- Severe medical or psychiatric comorbidities
- Serious liver disease or kidney failure, or any other condition with contraindications for the use of either metformin or glibenclamide*
- Pregnancy with a fetus affected by major congenital birth defects and/or chromosomal abnormalities

* * e.g. hypersensitivity to glibenclamide / metformin or to any of the excipients, hypersensitivity to other sulphonylureas, history of ketoacidosis, impaired adrenal function, severe infection

Study design

Design

Study phase:	3
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	20-12-2016
Enrollment:	810
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Glibenclamide
Generic name:	Glibenclamide
Registration:	Yes - NL outside intended use
Product type:	Medicine
Brand name:	Insulin
Generic name:	Insulin
Registration:	Yes - NL intended use
Product type:	Medicine
Brand name:	Metformin
Generic name:	Metformin
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	09-11-2016
Application type:	First submission
Review commission:	METC NedMec
Approved WMO Date:	23-11-2016
Application type:	First submission
Review commission:	METC NedMec
Approved WMO Date:	30-11-2016
Application type:	Amendment

Review commission:	METC NedMec
Approved WMO Date:	01-02-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	19-04-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	30-05-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	11-10-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	21-11-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	12-12-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	13-12-2017
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	29-01-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	02-02-2018
Application type:	Amendment

Review commission:	METC NedMec
Approved WMO Date:	15-03-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	17-04-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	24-04-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	15-05-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	09-07-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	24-07-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	31-07-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	13-08-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	15-10-2018
Application type:	Amendment

Review commission:	METC NedMec
Approved WMO Date:	24-10-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	31-10-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	07-11-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	05-12-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	11-12-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	19-06-2019
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	23-07-2019
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	26-10-2022
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	13-11-2022
Application type:	Amendment

Review commission: METC NedMec

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

ID: 25358
Source: NTR
Title:

In other registers

Register	ID
Other	6134
EudraCT	EUCTR2016-001401-16-NL
CCMO	NL57195.041.16