colesevelam hypoglycemia bile acid binding in rygb : a meal test study

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Bile acids play a role in stimulating GI-hormone release after RYGB leading to an increased secretion of insulin causing postprandial hypoglycemia (PBH). Bile acid sequestrants could decrease the binding of BA with the TGR-5 receptor on L-cells....

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON28329

Bron
NTR

Verkorte titel
COBRA

Aandoening

post gastric bypass hyperinsulinemic hypoglycemia

Ondersteuning

Primaire sponsor: Medical Center Leeuwarden
Overige ondersteuning: stichting CON-VOLUME research

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Glucose nadir during the MMT in mmol/L

Toelichting onderzoek

Achtergrond van het onderzoek

Rationale:
Postprandial hyperinsulinemic hypoglycaemia often occurs after bariatric surgery and is called PBH.
We previously found that 48% of patients after RYGB developed a hypoglycemic event in a mixed meal test (MMT). In these patients bile acid (BA) concentrations were much higher compared to those without hypoglycemia. Furthermore, more patients with hypoglycemia had undergone a cholecystectomy (CCx). The role of postprandial bile acids in PBH has up till now not been elucidated
Objective:
Primary : To investigate the effects of BA binding on the occurrence of hypoglycemia (glucose < 3.0 mmol/L) during a mixed meal test (MMT) in those patients after RYGB and cholecystectomy who develop a hypoglycemic event (glucose < 3.0 mmol/L) during a MMT.
Study design: prospective, non-blinded, pre- and posttreatment.
Study population:
Patients between 20 and 60 years who underwent RYGB surgery 2 years or more before and have a history of CCx
Intervention : only for those who develop a hypoglycemic event during the first MMT: colesevelam tablets 625mg , 6 tablets dissolved in water ingested just before the meal.
Main study parameters/endpoints:
Glucose nadir during the MMT
Number of patients developing hypoglycemia during the MMT
Glucose disposal rate and endogenous glucose production during the MMT measured with stable isotope dilution
Changes in bile acids and subclasses during the MMT
Changes in insulin, GLP-1, PYY, FGF19 during the MMT
Nature and extent of the burden and risks associated with participation, benefit and group relatedness:
Patients have to visit the outpatient clinic 1-2 times in fasting condition.
Via an indwelling catheter blood samples will be drawn 11 times to a total amount of 264 mL
The meal can induce dumping complaints and can induce a low blood sugar, which will be monitored and treated if necessary.

Doel van het onderzoek

Bile acids play a role in stimulating GI-hormone release after RYGB leading to an increased secretion of insulin causing postprandial hypoglycemia (PBH). Bile acid sequestrants could decrease the binding of BA with the TGR-5 receptor on L-cells. This would result in less GLP-1 release causing a lower insulin response to glucose leading to amelioration of postprandial hyperinsulinemic hypoglycemia.

Onderzoeksopzet

20 patients will start the first MMT f Those who developed a hypoglycemia (glucose < 3.0 mmol/L) will enter the second part of the study. The MMT will be repeated preceded by colesevelam 3750 mg dissolved in water ingested just before the start of the MMT.

Onderzoeksproduct en/of interventie

colesevelam 625mg tablets, 6 tablets dissolved in water ingested together

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

RYGB patients, 2 years or more after surgery with a history of cholecystectomy, 20 to 60 years of age, with a stable weight (+/- 5 Kg in last 3 months) and without complaints of PBH

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- (history of) diabetes
- hypertriglyceridemia
- Known gastro-intestinal disease or history of gastro-intestinal disease, e.g. celiac disease, inflammatory bowel disease

- Known addiction behaviour
- Suspected compliance problems
- Intolerance to colesevelam
- Renal or hepatic insufficiency
- Medication influencing glucose metabolism
- Medication influencing bile-acid metabolism, e.g. ursodeoxycholic acid
- Critical medication of which absorption can be compromised by colesevelam and can not be ingested at least 4 hours before or later than colesevelam(e.g. levothyroxine, verapamil, fenytoïne, glibenclamide, glimepiride, ciclosporin, olmesartan, ethinylestradiol (oral contraceptives)
- Pregnancy or pregnancy planning

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Anders
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	15-11-2021
Aantal proefpersonen:	20
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	07-02-2021
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL9249

Ander register study is registered on www.toetsingonline.nl : RTPO Leeuwarden

Resultaten