The physiological role of bile acid‐mediated glucagon‐like peptide‐1 release in humans: The Cerebrotendinous Xanthomatosis Mixed Meal Test study.

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We hypothesize that CTX patients, when untreated for a short period, differ from matched healthy controls in the response to a test meal. CTX patients are expected to have lower postprandial GLP‐1 and insulin levels with higher plasma...

Ethische beoordeling	Niet van toepassing
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON23193

Bron
NTR

Aandoening

diabetes, insulin resistance

Ondersteuning

Primaire sponsor: AMC
Overige ondersteuning: initiator

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Glucose, bile acids and incretins during meal test.

Toelichting onderzoek

Achtergrond van het onderzoek

Bile acids (BAs) have traditionally been regarded as nutrient-emulgators but may play an important role in energy metabolism. Primary bile acids are secreted in the bile and are dehydroxylated by the bacterial flora in the colon to form the secondary bile acids. BAs may stimulate the production of glucagon-like peptide-1 (GLP-1) that stimulates insulin secretion and inhibits glucagon secretion in the pancreas in a glucose-dependent fashion. Additionally, it reduces gastrointestinal motility and appetite. Cerebrotendinous xanthomatosis (CTX, OMIM #213700) is an autosomal recessive disorder characterized by a deficiency of sterol 27-hydroxylase leading to a defective BA synthesis (decreased amount of the BA chenodeoxycholate (CDCA)). It is not known whether CTX patients exhibit physiological deficiencies with regard to
postprandial plasma GLP-1 responses, glucose uptake, free fatty acid (FFA) suppression and plasma insulin levels. Studying postprandial glucose metabolism in these patients will provide insight in the metabolic role of BAs. We hypothesize that CTX patients, when untreated, have lower postprandial GLP-1 and insulin levels with higher plasma glucose and FFA levels compared to matched healthy control subjects.

Thus, the primary aim of the present protocol is to determine the role of chenodeoxycholate for postprandial GLP-1 responses (and the resulting metabolic consequences) in humans.

Doel van het onderzoek

We hypothesize that CTX patients, when untreated for a short period, differ from matched healthy controls in the response to a test meal. CTX patients are expected to have lower postprandial GLP-1 and insulin levels with higher plasma glucose and FFA levels.

Onderzoeksopzet

One occoasion, 3hr meal test.

Onderzoeksproduct en/of interventie

Mixed meal test: Liquid meal test (standard protocol) during which blood withdrawals are taken for 2-4 hours to measure glucose, insulin, bile acids and incretins.

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Inclusion criteria, CTX patients:

1. Adult age (older than 18 years of age);

2. Body mass index 19-30 kg/m2;

3. General good health (normal liver and renal function);

4. HbA1c below 7%;

5. Ability to give informed consent.

Inclusion criteria, matched controls:

Matched to CTX patients on individual basis. Preferably, these controls are unaffected healthy relatives to prevent differences in environmental factors (diet, faecal microbial composition, activity). If this is not possible, healthy matched control (age, length, height, gender) will be recruited.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Since CTX is a rare disorder, little exclusion criteria exist. However, patients that use medication that interferes with glucose metabolism such as oral antidiabetic medication or insulin are not included.

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Parallel
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:	01-04-2011
Aantal proefpersonen:	28
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing

Soort:	Niet van toepassing

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	NL2595
NTR-old	NTR2723
Ander register	MEC AMC : 2011_036
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Resultaten

Samenvatting resultaten
N/A