

Study on dietary fat retention in liver using MRI

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

Samenvatting

ID

NL-OMON28348

Bron

NTR

Verkorte titel

Tracking ¹³C fatty acids in vivo

Aandoening

Fatty liver/NAFLD, type 2 diabetes (T2DM).

Ondersteuning

Primaire sponsor: Maastricht University Medical Center

Overige ondersteuning: Top Institute Food and Nutrition (TIFN)

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

The main study parameters per study-group are:

Studie 1 (lean subjects)

- Determination of the lowest dose that allows for sufficient signal to noise ratio and to determine time of maximal ¹³C accumulation in liver. Time point of maximal increase.
Studie 2 (obese subjects)

- Minimal dose for significant postprandial increase of enrichment in liver.

- Time point of maximal increase.

- Difference in dose compared to lean subjects.

Toelichting onderzoek

Doel van het onderzoek

Using non-invasive imaging techniques, fat accumulation and metabolism can be studied in ectopic fat stores. Particularly interesting in the field of food and nutrition is the application of ¹³C magnetic resonance spectroscopy (MRS) to follow the time-course of retention of dietary fat in human tissues in 'real-time'. The objective is to develop and validate an in vivo magnetic resonance method to track ¹³C-labeled fatty acids to the liver in healthy subjects.

Onderzoeksopzet

0h, 1.5h, 3h, 4.5h and 6h after the meal

Onderzoeksproduct en/of interventie

High fat meal with ¹³C labeled fatty acids

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Inclusion criteria:

Lean subjects (study 1):

- Age 18-65 years
- Normal BMI 18-25 kg/m²
- Stable dietary habits
- Generally healthy, no medication use

Obese subjects (study 2):

- Age 18-65 years,
- Obese, BMI 30-35 kg/m²
- Stable dietary habits (no weight-reducing diet last year)
- Generally healthy, no medication use

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Persons that have any of the following will be excluded from the study:

- Any medical condition requiring treatment and/or medication use
- Alcohol consumption of more than 20 g per day ($\pm$ 2 units) or other drug abuse
- Unstable body weight (weight gain or loss > 3 kg in the past three months)
- Contraindications for MRI scan:

- Aneurysm clips
- Implanted neural stimulator
- Implanted cardiac pacemaker or defibrillator
- Cochlear implant
- Iron- containing corpora aliena in the eye or brain
- Artificial (heart) valves which is contraindicated for MRS
- Claustrophobia

- Subjects, who do not want to be informed about unexpected medical findings, or do not wish that their treating physician is informed, cannot participate in the study. Possible unexpected findings could include: dark or highlighted spots in the liver or contrast differences between different muscle groups. In case one of those unexpected findings are recognised by the performing researcher, a radiologist will be contacted first for advice. On his/her advice further investigations will be performed and/or the physician will be contacted.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Anders
Blinding:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	01-08-2012
Aantal proefpersonen:	20
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies

Datum: 30-10-2015

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	NL5275
NTR-old	NTR5557
Ander register	METC 12-2-034 : ABR38120

Resultaten