Pre-operative protein feeding to stimulate muscle and bone synthesis in older patients undergoing elective hip surgery

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Protein feeding prior to surgery enhances muscle and bone protein synthesis rates in the post-prandial period when compared to the non-feeding condition in older patients undergoing total hip arthroplasty.

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

Samenvatting

ID

NL-OMON27141

Bron
Nationaal Trial Register

Verkorte titel
Pre-HIP

Aandoening

Sarcopenia, Pre-operative feeding, Muscle disuse atrophy, Elective hip surgery

Ondersteuning

Primaire sponsor: Maastricht University Medical Center (MUMC+), TI Food & Nutrition
Overige ondersteuning: TI Food and Nutrition

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

The primary outcome is muscle and bone protein synthesis expressed as fractional synthesis rates (FSR, %/h). Muscle and bone-protein bound, muscle and bone-tissue free and plasma amino acid enrichments will be measured to calculate precusor and product enrichments.

Toelichting onderzoek

Achtergrond van het onderzoek

Aging is associated with a gradual loss of skeletal muscle mass and function, termed sarcopenia. Periods of hospitalization and immobilization can increase the rate of muscle loss. Dietary protein supplementation represents an effective strategy to preserve skeletal muscle mass by stimulating muscle protein synthesis. In line, we propose that pre-operative feeding forms an effective nutritional strategy to stimulate muscle protein synthesis during surgery and, as such, improves subsequent recovery.

Doel van het onderzoek

Protein feeding prior to surgery enhances muscle and bone protein synthesis rates in the post-prandial period when compared to the non-feeding condition in older patients undergoing total hip arthroplasty.

Onderzoeksopzet

Timepoints in this study:

1. Evening prior to surgery: Informed consent, DEXA-scan, questionnaires, placement of naso-duodenal tube;

2. Morning prior to surgery: placement of two intravenous catheters, infusion of stable isotope amino acids, administration of protein-rich supplement, blood draws every hour, questionnaire.

3. Surgery: muscle and bone collection, blood draws every hour

Onderzoeksproduct en/of interventie

1. This study will be conducted in older patients attending the department of Orthopedics with a scheduled total hip arthroplasty.

2. Subjects are randomized into a feeding and non-feeding group (no intervention).

3. Continuous stable isotope infusions will be applied in both groups to measure muscle and bone protein synthesis rates.

4. Subjects in the feeding group will receive a protein-rich supplement via enteral administration prior to surgery.

5. During the pre- and perioperative period, 6 venous bloodsamples, a muscle biopsy and bone sample will be taken to measure turnover rates.

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

1. Patients scheduled for total hip arthroplasty;

2. 60-85 years;

3. BMI: 18.5-35 kg/m^2;

4. Functioning gastrointestinal tract, eligible for tube feeding via an intestinal tube.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Co-morbidities and neuromuscular disorders of the lower limbs severely interacting with mobility;

2. Co-morbidities severely interacting with muscle metabolism of the lower limbs;

3. Known renal malfunction (Known renal malfunction without documented approval from nephrologist);

4. Known allergy to milk, milk products and soy;

5. Known galactosaemia;

6. Known gastrointestinal medical history.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	Geneesmiddel

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-08-2015
Aantal proefpersonen:	24
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies

Datum:	08-07-2015
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	NL5154
NTR-old	NTR5294
Ander register	: METC 15-30-19

Resultaten

Samenvatting resultaten
N/A