An evaluation of organ volume in well-trained strength athletes

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1. We hypothesize that well-trained strength athletes (using AAS) will have significantly greater organ volume when compared to well-trained strength athletes (not using AAS) and recreationally active participants (not using AAS). 2. We hypothesize...

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON21634

Bron
NTR

Verkorte titel
Muscle & Gut

Aandoening

N/A

Ondersteuning

Primaire sponsor: N/A
Overige ondersteuning: Not applicable

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Organ volume

Toelichting onderzoek

Achtergrond van het onderzoek

Well-trained strength athletes use exercise, diet and often androgenic-anabolic steroids (AAS) to reduce fat mass and increase muscle mass and strength. In addition, it is suggested that AAS may also stimulate hypertrophy in other tissues such as the abdominal organs. However, difficulty in the quantification of abdominal organ volume in vivo has limited research in this area. Recent advances now allow whole-body MRI-scans to be analysed in order to quantify (regional) organ volume. This allows the quantification of the volume of specific (abdominal) organs.
Much research has included assessment of muscle mass, thickness, cross-sectional area, or circumference. However, whole-body MRI scanning also allows the quantification of (regional) muscle volume. This allows the quantification of the volume of specific muscle groups. Regional muscle volume is of interest, as previous work (that used other techniques than the golden standard method whole-body MRI) suggests that muscle hypertrophy in response to resistance exercise does not occur uniformly among muscle groups. However, little remains known about regional abdominal organ and muscle volume in various populations.

Doel van het onderzoek

1. We hypothesize that well-trained strength athletes (using AAS) will have significantly greater organ volume when compared to well-trained strength athletes (not using AAS) and recreationally active participants (not using AAS).
2. We hypothesize that well-trained strength athletes (using AAS) will have significantly greater muscle volume when compared to well-trained strength athletes (not using AAS) and recreationally active participants (not using AAS), but that the relative differences are not uniformly distributed.
3. We hypothesize that single slice CT, DEXA, BIA and ultrasound provide reliable estimations of whole-body muscle volume, whereas skinfold measurement and tape measurement do not when compared to MRI in well-trained strength athletes (using AAS), well-trained strength athletes (not using AAS) and healthy controls (i.e., recreationally active participants (not using AAS).

Onderzoeksopzet

Single

Contactpersonen

Publiek

Maastricht University
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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

• Healthy males
• Age between 18 and 45 y
• Control group: Recreationally active males (performing any type of sports during 1-3 times per week, of which strength training ≤ 2 times per week)
• Strength groups: Strength training ≥ 5 times per week with or without using AAS
• Control group: BMI between 18.5 and 30

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

• Any chronic disease
• Any back/leg/knee/neck/postural complaints that may influence/compromise the strength assessment

Onderzoeksopzet

Opzet

Type: Observationeel onderzoek, zonder invasieve metingen

Onderzoeksmodel:	Anders
Toewijzing:	Niet-gerandomiseerd

Controle: Geneesmiddel

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	25-09-2019
Aantal proefpersonen:	45
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	23-09-2019
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	NL8042
Ander register	METC MUMC+ : METC 19003

Resultaten