

Invloed van inspanning door middel van wielrennen op het haemostatisch profiel.

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Does cycling exercise induce increased coagulation activity through contact activation?

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

Samenvatting

ID

NL-OMON20436

Bron

Nationaal Trial Register

Aandoening

Exercise, coagulation, platelet reactivity, thrombin generation, endofibrosis, cycling

Ondersteuning

Primaire sponsor: Maastricht University

Overige ondersteuning: Laboratory for Clinical Thrombosis and Haemostasis, Department of Internal Medicine,  Cardiovascular Research Institute Maastricht, Maastricht University Medical Center

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Expecting to show increased coagulation activity by increased TAT levels, supported by decreased Coagulation Time (CT) and enhanced Maximal clotting formation (MCF) by Rotem and enhanced thrombin generation through CAT assay. Increased fibrinolytic activity is expected by increased tPA and D-Dimer levels. Coagulation activation via the intrinsic pathway can be showed by enhanced thrombin generation in Active Site Inhibitor factor

Seven (ASIS) assay. Increased platelet reactivity is expected by multiplate accompanied by a increase in platelet count. Moreover we expect increase vWf levels, due to endothelial dysfunction.

Toelichting onderzoek

Achtergrond van het onderzoek

Although a clear association between exercise and activation of coagulation has been demonstrated, evidence is fragmented and the trigger remains unknown. Given the protease activated receptor (PAR) activation by coagulation proteases and the subsequent cellular effects such as inflammation, migration and apoptosis, haemostatic changes during exercise may contribute to the development of endofibrosis in cyclists. This pathology is characterized by intimal thickening of the iliacal artery, with reduced blood flow as a consequence.

Doel van het onderzoek

Does cycling exercise induce increased coagulation activity through contact activation?

Onderzoeksopzet

March 2013: Start of study.

Every 2 weeks a group of 5 cyclists and controle groupe will be tested. So 20 cyclists and 20 controle group members will be tested within 2 months.

Onderzoeksproduct en/of interventie

Blood will be collected before and after long-term strenuous exercise. Coagulation profile will be measured bij Thrombin Generation (CAT), Rotem;Natem and by measuring Thrombin-Antithrombin complex , Coagulation Factor XIa (FXIa), tissue Plasminogen Activator (tPA), D-Dimer and von Willebrand Factor (vWf). Platelet reactivity will be assesed by Multiplate. Blood cell counts are determined for testing the full blood cell count profile by: Hematocrit, Haemoglobin, platelets, cortisol and leukocytes (differentiation).

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

1. Minimal 18 years old;
2. Trains more than 3 times a week;
3. Mentally competent.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Diagnosed with coagulation or platelet disorder;
2. Using medication against coagulation or platelet function;
3. Vascular operation within 6 months before the research;
4. BMI > 30;
5. Prestation influencing drugs;
6. Pregnancy.

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Parallel
Toewijzing:	Niet-gerandomiseerd
Blinding:	Open / niet geblindeerd
Controle:	Actieve controle groep

Deelname

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	01-04-2013
Aantal proefpersonen:	40
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing	
Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 38959
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL3676
NTR-old	NTR3846
CCMO	NL42855.068.12
ISRCTN	ISRCTN wordt niet meer aangevraagd.
OMON	NL-OMON38959

Resultaten

Samenvatting resultaten

N/A