

Role of proangiogenic Tie2+ monocytes (TEMs) in diabetes-associated macrovascular disease.

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We hypothesize that the subpopulation of CD68+Tie2+ macrophages is increased in diabetic patients in comparison to non-diabetic individuals. These macrophages may cause an increased expression of Ang2 in plaques, thereby enhancing angiogenesis which...

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

Samenvatting

ID

NL-OMON24416

Bron

NTR

Aandoening

Type 2 diabetes
Macrovascular disease

Ondersteuning

Primaire sponsor: University Medical Center Groningen

Overige ondersteuning: None.

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

- Amount of tie2+ Monocytes (TEMs) and its relation with macrovascular disease

Toelichting onderzoek

Achtergrond van het onderzoek

Focus is on the role of adipose tissue inflammation/dysfunction on the development of vascular stiffness and calcification in T2D and CKD. Related to this central theme previously is performed a patient-related study in which monocyte subset frequencies were determined in subjects with T2D with or without macro-vascular disease (i.e. peripheral artery disease [PAD] and coronary artery disease [CAD]). In this study we observed increased numbers of Tie2⁺ monocytes (TEMs) within the population of CD14⁺CD16⁺ intermediate monocytes. Based on this observation we hypothesize that T2D is associated with increased numbers of TEMs that may subsequently migrate into developing atherosclerotic plaques. As TEMs are pro-angiogenic, intra-plaque recruitment of TEMs might result in enhanced angiogenesis thereby contributing to increased plaque vulnerability. To finalize this study, immunohistochemistry for Tie2-expressing cells need to be performed on atherosclerotic tissue. Staining procedure has been established and plaque tissue is available. As angiopoietin (Ang) 1 and 2 are the ligands for Tie2, levels of circulating Ang1 and Ang2 will be determined in archival plasma samples using a commercially available kit. Required stainings and ELISAs will be performed and to revise the draft manuscript.

Doel van het onderzoek

We hypothesize that the subpopulation of CD68⁺Tie2⁺ macrophages is increased in diabetic patients in comparison to non-diabetic individuals. These macrophages may cause an increased expression of Ang2 in plaques, thereby enhancing angiogenesis which contributes to increased plaque vulnerability.

Onderzoeksopzet

Not applicable

Onderzoeksproduct en/of interventie

Not applicable.

Contactpersonen

Publiek

Wetenschappelijk

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Men and women

Age above 17 years

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Type 1 diabetes

Age below 18 years

Incompetent

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Parallel
Toewijzing:	N.v.t. / één studie arm
Blindering:	Enkelblind
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	01-09-2018
Aantal proefpersonen:	40
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies	
Datum:	01-10-2018
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	NL7446
NTR-old	NTR7688
Ander register	Research register UMCG : 201700731

Resultaten

Samenvatting resultaten

None yet.