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

No registrations found.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON24416

Source
NTR

Health condition

Type 2 diabetes
Macrovascular disease

Sponsors and support

Primary sponsor: University Medical Center Groningen
Source(s) of monetary or material Support: None.

Intervention

Outcome measures

Primary outcome

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

- Role of type 2 diabetes on TEMs expression

Study description

Background summary

Ffocus 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.

Study objective

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.

Study design

Not applicable

Intervention

Not applicable.

Contacts

Public

Scientific

Eligibility criteria

Inclusion criteria

Men and women

Age above 17 years

Exclusion criteria

Type 1 diabetes

Age below 18 years

Incompetent

Study design

Design

Study type:	Observational non invasive
Intervention model:	Parallel
Allocation:	Non controlled trial
Masking:	Single blinded (masking used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-09-2018
Enrollment:	40
Type:	Anticipated

Ethics review

Positive opinion

Date:	01-10-2018
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL7446
NTR-old	NTR7688
Other	Research register UMCG : 201700731

Study results

Summary results
None yet.