The innate immune system in atherosclerosis - II

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The main objectives of this study is to see if lipid altering therapies, independent of their mechanism of action, revers changes in the innate immune system that are induced in hyperlipidemia.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Arteriosclerosis, stenosis, vascular insufficiency and necrosis
Study type	Observational invasive

Summary

ID

NL-OMON42376

Source
ToetsingOnline

Brief title
ISA-II

Condition

- Arteriosclerosis, stenosis, vascular insufficiency and necrosis

Synonym
arterial wall thickening, atherosclerosis

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: CVON Genius beurs

Intervention

Keyword: atherosclerosis, inflammation, lipid lowering therapy

Outcome measures

Primary outcome

- the expression of pro-atherogenic surface markers on monocytes

- gene expression of genes involved in lipid processing

Secondary outcome

- Trans endothelial migration w

- Lipid accumulation in monocytes

- In vitro cytokine production

- Epigenetic changes

Study description

Background summary

LDL-c elicits pro-inflammatory changes in monocytes, supporting a direct detrimental impact of LDL-c. This implies that LDL-c lowering in itself can lower inflammation, independent of *pleiotropic* effects. Moreover, triglyceride rich lipoproteins are associated with cardiovascular disease and inflammation and have also been shown to activate circulating monocytes. These data suggest direct interaction between lipids and monocytes and implies that lipid lowering in itself can have anti-inflammatory effects, which up to date have been solely attributed to pleiotropic effects of statins.

Study objective

The main objectives of this study is to see if lipid altering therapies, independent of their mechanism of action, revers changes in the innate immune system that are induced in hyperlipidemia.

Study design

This study is designed as a single center observational study. After screening

for eligibility, all subjects will undergo cardiovascular risk assessment and laboratory testing. Thereafter monocyte phenotype (flow cytometry, gene expression, protein expression) as well as functionality (lipid accumulation, cytokine production, transendothelial migration).

Study burden and risks

The results of this study contribute to the understanding of the involvement of lipid levels and the innate immune system in atherosclerosis, thereby contributing to risk stratification in individual patients and testing of new anti-atherosclerotic treatment. Individual subjects will gain no direct benefit from this study. The risk of participating in this study is estimated to be low. The patients will visit the hospital on a for medical history, cardiovascular risk assessment and blood withdrawal in a frequency comparable to the standard of care. Patients will be followed from start of treatment until they reach target levels.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

patients:
- aged 18 years or older
- diagnosis of a known lipid disorder (including but not limited to hypercholestoremia, hypertriglyceridemia, combined hyperlipidemia, hypoalphalipoprotenemia, hypobetalipoprotenemia);Control group:
- Age >18 years
- No previous cardiovascular events
- No medication use

Exclusion criteria

Both groups:
- Known malignant disorders or any clinically significant medical condition that could interfere with the conduct of the study in the opinion of the investigator.
- Inability or unwillingness to comply with the protocol requirements, or deemed by investigator to be unfit for the study.
- History of cardiovascular event within the last 3 months
- Clinical signs of acute infection

Study design

Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	16-02-2016
Enrollment:	340
Type:	Actual

Ethics review

Approved WMO Date:	18-01-2016
Application type:	First submission
Review commission:	METC Amsterdam UMC

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
CCMO	NL55744.018.15