Inhibition of Mast cell Activation in AtheroScleroTic lesions using an Anti-IgE antibody approach (MAST)

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We assume that single treatment with an anti-IgE monoclonal antibody can inhibit the degree of mast cell activation in atherosclerotic plaque

Ethische beoordeling	Positief advies
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON23598

Bron
Nationaal Trial Register

Verkorte titel
MAST

Aandoening

Atherosclerotic narrowing of the carotid artery

Ondersteuning

Primaire sponsor: ZonMW, Dutch Heart Foundation
Overige ondersteuning: ZonMW, Dutch Heart Foundation

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary outcome: The extent of mast cell activation in atherosclerotic plaque after

administration of the study drugs (either omalizumab or placebo) measured by flow cytometry

Toelichting onderzoek

Achtergrond van het onderzoek

Background: Destabilization and subsequent rupture of atherosclerotic plaque is a crucial underlying mechanism of ischemic cardiovascular events. After the activation of mast cells, various cytokines and proteases such as tryptase and chymase are released which contribute to the progression and destabilization of atherosclerotic plaque. This occurs due to the accumulation of lipids, the influx of pro-inflammatory immune cells, apoptosis of macrophages, endothelial cells and smooth muscle cells, matrix degradation and the occurrence of intraplaque hemorrhage. Mast cells accumulate during the progression of atherosclerosis. The number of mast cells in atherosclerotic plaque is associated with an increase in the microvessel density and intraplaque hemorrhage, moreover the number of mast cells are associated with future cardiovascular events. Mast cells can be activated by various stimuli, of which crosslinking of the FcεRI with IgE-antigen complexes is most prominent. Recent animal studies have demonstrated that treatment with anti-IgE can inhibit mast cell activation and effectively reduce plaque size.

Aim: Does single treatment with an anti-IgE monoclonal antibody (omalizumab) affect the degree of mast cell activation in atherosclerotic plaques?

Method: Patients with (a)symptomatic carotid stenosis which will undergo a carotid endarterectomy will be treated with the study medication (omalizumab or placebo) prior to surgery. The study medication will be administrated with subcutaneous injections. During the surgery the plaque will be collected. With the use of flowcytometry the primary endpoint, the degree of mast cell activation, will be determined. Furthermore, individual subsets of other immune cells will be studied with the use of flowcytometry and mast cell activation markers will be determined in blood and atherosclerotic plaque samples.

Hypothesis: We assume that single treatment with an anti-IgE monoclonal antibody can inhibit the degree of mast cell activation in atherosclerotic plaque. In the future, further research will have to show whether the inhibition of mast cell activation is a potential new therapy to prevent atherosclerotic plaque destabilization and ultimately acute cardiovascular events.

Doel van het onderzoek

We assume that single treatment with an anti-IgE monoclonal antibody can inhibit the degree of mast cell activation in atherosclerotic plaque

Onderzoeksopzet

Screening, day 0, day 3 and 3 months

Onderzoeksproduct en/of interventie

Single treatment with Omalizumab 600mg s.c. or placebo

Contactpersonen

Publiek

UMC Utrecht
Joost Mekke

+311887550452

Wetenschappelijk

UMC Utrecht
Joost Mekke

+311887550452

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

In order to be eligible to participate in this study, a subject must meet all of the following criteria:
• Patient is 18 years of age or older
• Patient is able and willing to give their consent and sign an informed consent
• Patient has a symptomatic or asymptomatic atherosclerotic carotid artery stenosis of at least 50% narrowing of the lumen (calculated by using criteria equivalent to the NASCET method) wherefore revascularisation through carotid endarterectomy is planned routinely.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

A potential subject who meets any of the following criteria will be excluded from participation

in this study:
• Previous anaphylactic reaction (e.g. food allergy, medication such as antibiotics etc.)
• Previous CEA or CAS in the ipsilateral artery
• Patients with severe asthma or chronic urticaria which are treated or have been treated with omalizumab s.c.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Dubbelblind
Controle:	Placebo

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	27-12-2019
Aantal proefpersonen:	80
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Toelichting
N/A

Ethische beoordeling

Positief advies

Datum:	13-01-2020
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 54785
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL8294
CCMO	NL70680.041.19
OMON	NL-OMON54785

Resultaten

Samenvatting resultaten
N/A