

Perioperative changes in the microvascular perfused boundry region in patients undergoing coronary artery bypass grafting

Gepubliceerd: 25-10-2013 Laatste bijgewerkt: 15-05-2024

We assume that the increase of perfused boundry region will be more pronounced with the use of a phosphorylcholine-coated extracorporeal circuit than with the use of a heparin-coated extracorporeal circuit.

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

Samenvatting

ID

NL-OMON21929

Bron

NTR

Verkorte titel

GlyCar

Aandoening

Microcirculation, Glycocalyx, Cardiac surgery, Heparin, Cardiovascular disease

Ondersteuning

Primaire sponsor: VU University Medical Center

Overige ondersteuning: VU University Medical Center

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Perioperative changes in the perfused boundry region (PBR) of the sublingual microvasculature

Toelichting onderzoek

Achtergrond van het onderzoek

The endothelial glycocalyx (EGC) is a gel-like layer that acts as a natural coating for endothelial cells, thereby preventing these cells from having direct contact with circulating blood cells. In order to reduce the inflammatory and procoagulant response during cardiopulmonary bypass in patients undergoing cardiac surgery through contact activation, extracorporeal circuits are coated with a biocompatible surface. In VU University Medical Centre, cardiopulmonary bypass is mostly performed using a heparin-coated extracorporeal circuit in combination with full anticoagulation by heparin infusion. Alternatively, a phosphorylcholine-coated extracorporeal circuit is used, but it is unknown how these different biocompatible-coated extracorporeal circuits will contribute to the preservation of the glycocalyx during cardiac surgery.

Doel van het onderzoek

We assume that the increase of perfused boundry region will be more pronounced with the use of a phosphorylcholine-coated extracorporeal circuit then with the use of a heparin-coated extracorporeal circuit.

Onderzoeksopzet

Blood will be drawn and several microcirculatory imaging parameters will be measured before surgery (T0), before (T1) and after administration of heparin (T2), after initiation of CPB (T3), after placement of the side clamp (T4), after administration of protamine (T5), after infusion of concentrated red blood cells (T6), 3 hours after the patient has arrived at the ICU (T7), and 24 hours (T8) and 72 hours (T9) following surgery

Onderzoeksproduct en/of interventie

none

Contactpersonen

Publiek

Dept. of Cardio-thoracic surgery

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

adult patients (age 18-85 years) undergoing CABG surgery, informed consent

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Re-operation, emergency operation, patients with diabetes mellitus type 1, patients with a history of hematologic or hepatic diseases or renal replacement therapy, patients with a Body Mass Index (BMI) over 35 kg/m²

Onderzoeksopzet

Opzet

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

Deelname

Nederland	
Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-09-2013
Aantal proefpersonen:	44
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies	
Datum:	25-10-2013
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 38499
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4085

Register

NTR-old

CCMO

ISRCTN

OMON

ID

NTR4222

NL45828.029.13

ISRCTN wordt niet meer aangevraagd.

NL-OMON38499

Resultaten

Samenvatting resultaten

N/A