Effect of physiological stroke volume variation on parameters of peripheral perfusion in healthy volunteerd

Published: 02-06-2009
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The aim of the study is to evaluate the effect of stroke volume variation on different parameters of peripheral perfusion. Additionally the relationship between these parameters will be studied.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON33148

Source
ToetsingOnline

Brief title
Effect of stroke volume on peripheral perfusion in healthy volunteers

Condition

- Other condition

Synonym
peripheral perfusion

Health condition

fysiologie van de relatie van micro- en macrocirculatie

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: peripheral perfusion, stroke volume

Outcome measures

Primary outcome

The primary study parameter is the peripheral perfusion assessed by 1) laser doppler flowmetry, 2) sidestream dark field imaging, 3) near infrared spectroscopy, 4) photopletysmography.

Secondary outcome

Not applicable.

Study description

Background summary

Intravenous administration of fluids is one of the cornerstones of treatment of hemodynamically instable patients admitted to the intensive care. The aim of fluid administration is improving tissue perfusion. The effect however is mainly assessed by the increase of cardiac output and stroke volume. Currently there is no clinical parameter which objectively evaluates the effect of fluid administration on tissue perfusion. New techniques are available which are able to assess tissue perfusion non-invasively. Healthy volunteers will be studied because they are by definition fluid responsive and the peripheral perfusion will be adequate. By studying this population the physiological relationship between stroke volume and peripheral perfusion can be determined. It is possible that one or more of these parameters are capable to guide the fluid regime on the individual needs of the patient based on the tissue perfusion.

Study objective

The aim of the study is to evaluate the effect of stroke volume variation on different parameters of peripheral perfusion. Additionally the relationship

between these parameters will be studied.

Study design

The study will be carried out in the Erasmus Medical Center and will be carried out as a single center observational study.

Study burden and risks

The posture changes are temporary and do not involve any risks. The methods to measure peripheral perfusion are based on light with harmless wavelengths. The measurement probes will only slightly make contact with the skin and the sublingual area of the subject. The duration of the study for the individual subject is 1 hour.

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

Age above 18 years

Exclusion criteria

Cardiovascular diseases

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	19-06-2009
Enrollment:	20
Type:	Actual

Ethics review

Approved WMO

Date:	02-06-2009
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

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	NL27840.078.09