Neutrophil viability in surgical patients and its relationship with neutrophil functionality

Published: 04-10-2017
Last updated: 13-04-2024

This study aims to further investigate neutrophil viability as marker for neutrophil cell dead in patients with a decreased leukocyte viability factor and investigate its impact on neutrophil functioning.

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Immune disorders NEC
Study type	Observational invasive

Summary

ID

NL-OMON49355

Source
ToetsingOnline

Brief title
Neutrophil viability study

Condition

- Immune disorders NEC

Synonym
death of white blood cells, neutrophil cell death

Research involving
Human

Sponsors and support

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

Intervention

Keyword: leukocyte, neutrophil, neutrophil viability, surgery

Outcome measures

Primary outcome

The primary endpoint is neutrophil cell death, determined by double staining of

Annexin V and PI. This will be compared to the decreased viability factor of

the initial routine blood sample to validate the viability factor.

Secondary outcome

Secondary endpoints are neutrophil phagocytosis and responsiveness to fMLP.

Study description

Background summary

Previous studies showed a decreased neutrophil viability in critically ill patients. Neutrophil viability was measured using propidium iodide (PI) staining, which visualizes diminished membrane integrity and thus cell necrosis or apoptosis. Not much is known about a decreased neutrophil viability and its implications for neutrophil functioning.

Study objective

This study aims to further investigate neutrophil viability as marker for neutrophil cell dead in patients with a decreased leukocyte viability factor and investigate its impact on neutrophil functioning.

Study design

prospective cohort series, diagnostic

Study burden and risks

A total of two 4 milliliter blood containers will be collected from the patients. Sampling this amount of blood will have a negligible influence on total blood volume. In total, one venipuncture is required to obtain the blood

samples and if the patient has a central venous or peripheral arterial catheter in situ, no punctures are required.

Contacts

Public
Universitair Medisch Centrum Utrecht

Heidelberglaan 100
Utrecht 3584 CX
NL
Scientific
Universitair Medisch Centrum Utrecht

Heidelberglaan 100
Utrecht 3584 CX
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

leukocyte viability factor * 0.95

Exclusion criteria

Immunosuppressive drugs (e.g. chemotoxic and cytostatic drugs) or positive HIV-status or use of clozapine medication

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	31-10-2017
Enrollment:	33
Type:	Actual

Ethics review

Approved WMO Date:	04-10-2017
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO Date:	08-03-2018
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO Date:	04-04-2018
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO Date:	13-02-2019
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)

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	NL60543.041.17