Determining the role of Von Willebrand factor and ADAMTS13 in the adhesion of sickled erythrocytes to endothelial cells

Published: 26-11-2009
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To determine the role of VWF and ADAMTS13 in the adherence of sickled erythrocytes to vascular endothelium.

Ethical review	Approved WMO
Status	Pending
Health condition type	Red blood cell disorders
Study type	Observational non invasive

Summary

ID

NL-OMON32743

Source
ToetsingOnline

Brief title
The role of VWF and ADAMTS13 in vascular occlusion in sickle cell disease

Condition

- Red blood cell disorders
- Congenital and hereditary disorders NEC

Synonym
hereditary anemia, sickle cell disease

Research involving
Human

Sponsors and support

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

Intervention

Keyword: children, sickle cell disease, silent infarcts, von willebrand factor

Outcome measures

Primary outcome

Main study parameter is the amount and percentage of adhesion as compared to a

baseline measurement with normal erythrocytes.

Secondary outcome

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Study description

Background summary

Vascular occlusion causes devastating complications in patients with sickle cell disease. However, the mechanisms of vascular occlusion are poorly understood. It is hypothesized that disturbances in the ADAMTS13/VWF ratio contribute to the pathophysiology of vascular occlusion in patients with sickle cell disease.
This project aims to elucidate pathophysiology of vascular occlusion in patients with sickle cell disease, focusing on disturbances in the balance between VWF and ADAMTS13.

Study objective

To determine the role of VWF and ADAMTS13 in the adherence of sickled erythrocytes to vascular endothelium.

Study design

In vitro study of the interactions between human umbilical vein endothelial cells and sickled erythrocytes under continuous flow.

Study burden and risks

The first experiments will make use of the waste product of erythrocytapheresis. This causes no increased risks associated with

participation. Since some blood cells may become overly activated after apheresis, later experiments will make use of blood drawn from non-transfused patients. This will entail taken 30 ml of blood extra, next to the normal routine withdrawal. This volume is as small as possible to minimalise the possible burden for the patient.

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

Adult sickle cell patients with HbSS or HbS*0 als genotype

Exclusion criteria

Therapeutic intervention with hydroxyurea (Hydrea), with an extra exclusion criterium for the non-transfused patients that they have not been transfused in the last 4 months.

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-10-2009
Enrollment:	10
Type:	Anticipated

Ethics review

Approved WMO

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	NL29705.018.09