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In vivo changes in haemostasis after intravenous administration of plasma-derived factor VII and recombinant factor VII(a)

Submission date
24/06/2011

Recruitment status
No longer recruiting

Registration date
12/07/2011

Overall study status
Completed

Last Edited
30/10/2015

Condition category
Haematological Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
Factor VII is a protein produced in the liver that plays an important role in helping the blood to clot. Factor VII deficiency is a rare inherited bleeding disorder due to a diminished level of factor VII in the blood. Factor VII deficiency cannot be cured but bleeding episodes can be treated with factor VII either taken from donated blood (plasma-derived) or produced artificially (recombinant). These products are not only used to treat bleeding episodes but also to prevent bleeding. However, it is not known why this preventive treatment is successful. The aim of this study is to unravel the mode of action of both products in these patients.

Who can participate?
Patients aged 18 or older with severe factor VII deficiency.

What does the study involve?
Patients are treated with both products in a time frame of at least six weeks. Half of the patients are treated with a single injection of recombinant factor VII followed after at least six weeks with an injection of plasma-derived factor VII. The other half of the patients are treated in the reverse order.

What are the possible benefits and risks of participating?
As both products are used for the treatment of bleeding episodes in these patients the risk of adverse events is limited.

Where is the study run from?
The study will be performed at two central locations at the clinical research centers of the Radboud University of Nijmegen and in Milano.

When is the study starting and how long is it expected to run for?
May 2007 to December 2008.

Who is funding the study?
The De Erven Leeuwenhart Foundation. The products will be supplied by Novo Nordisk (recombinant factor VII) and Baxter (plasma-derived factor VII).

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
PSTOL20

Study information

Scientific Title
In vivo changes in haemostasis after intravenous administration of plasma-derived factor VII and recombinant factor VII(a): a randomised controlled cross over multicentre intervention study

Study objectives
The basis of suppletive therapy with plasma derived factor (pdF) VII or recombinant factor (rF) VIIa is not only restoration of the coagulation cascade but also presensitise platelets and effects the genetic regulation of other clotting factors

Ethics approval required
Old ethics approval format

Ethics approval(s)
Human Subjects Research Region Arnhem-Nijmegen (Commissie Mensgebonden Onderzoek Regio Arnhem-Nijmegen), 30/03/2004, CMO 2003/257

Study design
Randomised controlled cross over multicentre intervention study

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Factor VII deficiency

Interventions
1. Ten severe factor VII patients will be treated with two factor VII containing products in a time frame of at least six weeks
2. Five patients will be treated with a single intravenous injection of recombinant activated factor VII (20 ug/kg, Novo Nordisk) followed after at least six weeks with a intravenous injection of plasma derived factor VII (25 IU/kg, Baxter)
3. The other five patients will be treated in the revise order
4. Within 48 hours blood samples will be drawn to analyse different haemostatic parameters in their blood

Intervention Type
Biological/Vaccine

Primary outcome(s)
Pharmacokinetic and pharmacodynamic analysis of recombinant activated factor VII and plasma-derived factor VII

Key secondary outcome(s))
No secondary outcome measures

Completion date
11/12/2008

Eligibility

Key inclusion criteria
1. Factor VII clotting activity of less than 5%
2. Age 18 years or older
3. Wash-out period of pdFVII or rFVII(a) of at least 3 days
4. Male or female
5. The intention to participate in a cross-over design (treated-twice)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Age < 18 years
2. Known allergy to plasma proteins
3. Bleeding episode resulting in a drop in haemoglobin (Hb) levels of >1 mmol/l (64.5 g/l), trauma or surgery in the last 6 weeks
4. Fever (> 38 degrees centigrade)
5. Clinical indication of liver cirrhosis (echographic indication, enlarged spleen, enlarged liver, decreased platelet count)
6. Hepatitis C recently treated with interferon (wash-out 6 months)
7. Human immunodeficiency virus (HIV) positive
8. Pregnancy
9. Medication:
9.1. Non-steroid anti-inflammatory drugs (NSAIDs)
9.2. Clopidogrel
9.3. Antimicrobial medication
9.4. Thyroid inhibitors
9.5. Serotonin-specific reuptake inhibitor (SSRIs)
9.6. Hb levels < 7.5 mmol/l for women, < 8.4 mmol/l for men

Date of first enrolment
07/05/2007

Date of final enrolment
11/12/2008

Locations

Countries of recruitment
Italy

Netherlands

Norway

Study participating centre
Radboud University Nijmegen Medical Center
Nijmegen
Netherlands
6500 GA

Sponsor information

Organisation
Radboud University Nijmegen Medical Center (Netherlands)

ROR
https://ror.org/05wg1m734

Funder(s)

Funder type
University/education

Funder Name
Radboud University Nijmegen Medical Center (Netherlands)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/08/2013		Yes	No