Accumulation of Nadroparin Used in Renal Insufficiency Assessed by anti-Xa levels

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The aim of this study is to determine the accumulation of nadroparin used in renal insufficient patients with VTE, by measuring anti-Xa levels.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Embolism and thrombosis
Study type	Observational invasive

Summary

ID

NL-OMON37978

Source
ToetsingOnline

Brief title
ANURIA

Condition

- Embolism and thrombosis

Synonym
venous thromboembolism

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: Accumulation, Anti-Xa level, Nadroparin, Renal insufficiency

Outcome measures

Primary outcome

Anti-Xa levels will be measured 4 hours (± 1 hour) after subcutaneous injection of nadroparin on day 1 or day 2, day 3 and day 5 of treatment (if applicable day 10 of treatment as secondary endpoint). Primary outcome is the degree of accumulation, defined as the percentage of increase of anti-Xa level on day 5 compared to day 1. This primary outcome will be assessed for various levels of renal function.

Secondary outcome

Secondary endpoints are the percentage of increase of anti-Xa level on day 3 compared to day 1, the percentage of increase of anti-Xa level on day 10 compared to day 1, and bleeding complications during treatment with nadroparin (again this will be assessed for various levels of renal function).

Study description

Background summary

Prevention of venous thromboembolism (VTE) with low-molecular-weight heparins (LMWHs) is confirmed to be more effective compared to unfractionated heparin (UFH). In comparison to UFH, the LMWHs have improved pharmacokinetics, ease of administration and lack of need of laboratory monitoring, which has greatly increased the use of LMWHs. Because the elimination of LMWHs is mainly determined by renal excretion, the use of LMWHs in patients with renal insufficiency might lead to accumulation of the drug, accompanied by an increase in anti-Xa level and thereby a greater risk for hemorrhagic complications.

For the normal prophylactic dose of nadroparin, there are no studies available suggesting dose adjustment in patients with renal insufficiency. Because of this, in our hospital, we do not adjust the normal prophylactic dose of nadroparin. For the high prophylactic dose of nadroparin currently no information is available on possible accumulation in patients with renal insufficiency. Because of the clear risk of accumulation in therapeutic dose, one might assume that a high prophylactic dose may accumulate as well, but evidence is lacking.

Therefore, this study aims to investigate the possible accumulation of nadroparin in high prophylactic dosages in patients with renal insufficiency.

Study objective

The aim of this study is to determine the accumulation of nadroparin used in renal insufficient patients with VTE, by measuring anti-Xa levels.

Study design

Prospective, observational, follow-up study.

Study burden and risks

The patient will be asked for 4 blood samples of 4.5 ml to measure the anti-Xa level during treatment with nadroparin. Standard care will be provided, so if the doctor does not decide to measure anti-Xa himself, then the anti-Xa analyses will take place in batches after day 10 of treatment with nadroparin (and thus the values will not be used to adjust therapy during the study period). If still relevant (i.e. when nadroparin is still in use) the anti-Xa levels will be communicated to the doctor after day 10.

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 at least 18 years
- First day of high-prophylactic treatment with nadroparin
- GFR (based on Modification of Diet in Renal Disease (MDRD) calculation) 10-20 ml/min, 20-30 ml/min, 30-40 ml/min, 40-50 ml/min or 50 ml/min or higher (equal distribution of patients to be included over these 5 groups)
- High-prophylactic treatment dose of nadroparin of 5,700 anti-Xa activity IU once daily
- Subcutaneous nadroparin administration for at least 3 days
- Written informed consent

Exclusion criteria

- Patients on an intensive care unit (ICU)
- Normal prophylactic dosages or therapeutic dosages of nadroparin for VTE
- GFR less than 10 ml/ml or dialysis
- Severe liver failure
- Pregnant patients or patients giving breast feeding
- Nadroparin in use for more than 2 days
- Adjustment of the dosage of nadroparin without measuring of anti-Xa level

Study design

Design

Study phase:	4
Study type:	Observational invasive
Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-10-2011
Enrollment:	30
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Fraxiparine
Generic name:	nadroparin
Registration:	Yes - NL intended use

Ethics review

Approved WMO Date:	07-06-2011
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	12-07-2011
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	25-07-2012
Application type:	Amendment

Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	20-08-2012
Application type:	Amendment
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
EudraCT	EUCTR2011-002128-41-NL
CCMO	NL36591.078.11