Anti-Xa activity after a reduced therapeutic dose of nadroparin in patients with renal impairment using a dosage guideline of the Dutch Federation of Nephrology

Published: 18-12-2014
Last updated: 21-04-2024

The primary objective of this study is to determine the anti-Xa activity after a reduced therapeutic dose of nadroparin in patients with an eGFR < 60 ml/min in comparison with the anti-Xa activity after a standard therapeutic dose of nadroparin...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Renal disorders (excl nephropathies)
Study type	Observational invasive

Summary

ID

NL-OMON44475

Source
ToetsingOnline

Brief title
Anti-Xa activity of nadroparin after a dose reduction (XANDO)

Condition

- Renal disorders (excl nephropathies)
- Embolism and thrombosis

Synonym
coagulation, Renal impairment

Research involving
Human

Sponsors and support

Primary sponsor: Medisch Centrum Leeuwarden
Source(s) of monetary or material Support: Ministerie van OC&W,gelden vanuit zorgverzekeraar

Intervention

Keyword: Antifactor Xa, Dose reduction, Nadroparin, Renal impairment

Outcome measures

Primary outcome

The mean anti-Xa activity in patients with an eGFR < 60 ml/min and patients with an eGFR > 60 ml/min treated with therapeutic doses of nadroparin.

Secondary outcome

- The mean anti-Xa activity in patients with an eGFR < 30 ml/min, 30-60 ml/min and > 60 ml/min.

- The percentage of patients with an eGFR < 60 ml/min and > 60 ml/min, obtaining an adequate anti-Xa activity.

- The percentage of patients with an eGFR < 30 ml/min, 30-60 ml/min and > 60 ml/min, obtaining an adequate anti-Xa activity.

- The number of patients with an eGFR < 30 ml/min, 30-60 ml/min and > 60 ml/min experiencing a trombo-embolic event or bleeding complication during hospital admission.

- The number of patients with an eGFR < 30 ml/min, 30-60 ml/min and > 60 ml/min experiencing a trombo-embolic event during hospital admission.

-The number of patients with an eGFR < 30 ml/min, 30-60 ml/min and > 60 ml/min experiencing a bleeding complication during hospital admission.

Study description

Background summary

Low-molecular-weight heparins (LMWHs) are frequently used in the prophylaxis and therapy of venous thromboembolism (VTE) and the prophylaxis of arterial thromboembolism. LMWHs are mainly excreted by the kidneys and may accumulate in patients with renal impairment, leading to an increased anti-Xa activity which is associated with an increased risk of bleeding complications. Current dosage guidelines of the Dutch Federation of Nephrology (NfN) and the Royal Dutch Pharmacists Association (KNMP) recommend a dose reduction in patients with renal impairment, followed by determination of the anti-Xa activity in patients treated for more than three days. The evidence supporting this recommendation is sparse. To date, no data is available about the effect of nadroparin in obtaining an adequate anti-Xa activity in patients with renal impairment (eGFR < 60 ml/min) after dose reduction, but also not in patients with a normal renal function (eGFR > 60 ml/min) treated with a standard therapeutic dose of nadroparin. In this study, we therefore determine the anti-Xa activity after a reduced therapeutic dose of nadroparin in patients with an eGFR < 60 ml/min in comparison with the anti-Xa activity after a standard therapeutic dose of nadroparin in patients with an eGFR > 60 m/min, using the dosage guideline of the Dutch Federation of Nephrology

Study objective

The primary objective of this study is to determine the anti-Xa activity after a reduced therapeutic dose of nadroparin in patients with an eGFR < 60 ml/min in comparison with the anti-Xa activity after a standard therapeutic dose of nadroparin in patients with an eGFR > 60 m/min, using the dosage guideline of the Dutch Federation of Nephrology.

Study design

Prospective observational cohort study

Study burden and risks

Potential risk:
The drawing of one blood sample is a procedure through which subjects can experience discomfort. Because of a different sampling time, this can not be combined with the drawing of routine laboratory blood samples. Though, patients admitted to general medical or surgical wards of Medisch Centrum Leeuwarden or the Isala in Zwolle are frequently subjected to this procedure. For this reason the risks associated with participation can be considered negligible and the burden can be considered minimal.

Potential benefit:
In Medisch Centrum Leeuwarden and the Isala in Zwolle, patients are treated with LMWH nadroparin according to the Summary of Product Characteristics (SPC) and dosage guideline of the NfN. Still to date, measuring anti-Xa activity is not advised as standard care in Medisch Centrum Leeuwarden since the Clinical Chemistry Laboratory is not capable to determine anti-Xa activity routinely. In the Isala in Zwolle measuring anti-Xa activity is also not advised as standard care.
LMHWs are mainly excreted by the kidneys and may accumulate in patients with renal impairment, leading to an increased anti-Xa activity which is associated with a 2- to 3-fold increased risk of bleeding complications. No studies are available describing the effect of nadroparin in obtaining adequate anti-Xa activity in patients with an eGFR < 60 ml/min after dose reduction according to the dosage guideline of the NfN, but also not in patients with an eGFR > 60 ml/min treated with a standard therapeutic dose of nadroparin. An adequate anti-Xa activity is required because underdosing is associated with an increased risk of thrombo-embolic events, while overdosing is associated with an increased risk of bleeding complications. Findings of this study will be helpful to confirm the accuracy of the used dosage guideline of the NfN and can influence future dosing schedules in patients with renal impairment treated with nadroparin.

Contacts

Public
Medisch Centrum Leeuwarden

Henri Dunantweg 2
Leeuwarden 8934 AD
NL
Scientific
Medisch Centrum Leeuwarden

Henri Dunantweg 2
Leeuwarden 8934 AD
NL

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
- Therapeutic dose of Fraxiparine or Fraxodi
- Subcutaneous nadroparin administration for at least three days
- Written informed consent

Exclusion criteria

- Patients on hemodialysis
- Use of antifactor Xa inhibitors other than nadroparin (all remaining LMWHs, dabigatran, apixaban, rivaroxaban, heparin and fondaparinux) within 7 days before the start of the study or during the study
- Use of Cofact or Beriplex within 7 days before the start or during the study

Study design

Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	29-01-2015

Enrollment:	194
Type:	Actual

Ethics review

Approved WMO Date:	18-12-2014
Application type:	First submission
Review commission:	RTPO, Regionale Toetsingscie Patientgebonden Onderzoek (Leeuwarden)
Approved WMO Date:	10-08-2015
Application type:	Amendment
Review commission:	RTPO, Regionale Toetsingscie Patientgebonden Onderzoek (Leeuwarden)
Approved WMO Date:	29-03-2016
Application type:	Amendment
Review commission:	RTPO, Regionale Toetsingscie Patientgebonden Onderzoek (Leeuwarden)

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	NL50430.099.14