



## Clinical trial results:

### Pharmacokinetic profile and pharmacodynamic effects after intranasal naloxone administration in volunteers.

#### Summary

EudraCT number	2013-005201-31
Trial protocol	SE
Global end of trial date	09 January 2017

#### Results information

Result version number	v1 (current)
This version publication date	09 March 2020
First version publication date	09 March 2020

#### Trial information

##### Trial identification

Sponsor protocol code	INNalox-1
-----------------------	-----------

##### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

#### Sponsors

Sponsor organisation name	Stockholm Läns Landsting
Sponsor organisation address	Karolinska Hospital, Stockholm, Sweden, 17176
Public contact	Stefan Lundeberg, Pain Treatment Service, Astrid Lindgren Children's Hospital, +46 851777271, stefan.lundeberg@karolinska.se
Scientific contact	Stefan Lundeberg, Pain Treatment Service, Astrid Lindgren Children's Hospital, +46 851777271, stefan.lundeberg@karolinska.se

Notes:

#### Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

---

**Results analysis stage**

---

Analysis stage	Final
Date of interim/final analysis	09 January 2017
Is this the analysis of the primary completion data?	Yes
Primary completion date	09 January 2017
Global end of trial reached?	Yes
Global end of trial date	09 January 2017
Was the trial ended prematurely?	No

Notes:

---

**General information about the trial**

---

Main objective of the trial:

To study the pharmacokinetic profile in plasma after naloxone administered intranasally in healthy volunteers.

Study the effect on sedation of opioid after administration of the antidote naloxone

Protection of trial subjects:

The nasal spray was tested before the study to find out any pain or discomfort on administration. Any pharmacodynamic effects not expected because no opioid was administered before the test drug.

Background therapy:

There was no background therapy or ongoing medication among the test subjects enrolled in this study

Evidence for comparator:

n/a

Actual start date of recruitment	09 February 2016
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

---

**Population of trial subjects**

---

**Subjects enrolled per country**

Country: Number of subjects enrolled	Sweden: 20
Worldwide total number of subjects	20
EEA total number of subjects	20

Notes:

---

**Subjects enrolled per age group**

---

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	20
From 65 to 84 years	0

85 years and over	0
-------------------	---

## Subject disposition

### Recruitment

Recruitment details:

Healthy volunteers from 18-64 years of age

### Pre-assignment

Screening details:

Medical history was checked before enrollment

### Period 1

Period 1 title	Overall trial (overall period)
Is this the baseline period?	Yes
Allocation method	Non-randomised - controlled
Blinding used	Not blinded

Blinding implementation details:

n/a

### Arms

Arm title	Intranasal naloxone
-----------	---------------------

Arm description:

Single group of healthy volunteers

Arm type	Experimental
Investigational medicinal product name	Naloxone hydrochlorid 0.4 mg/ml
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Nasal spray
Routes of administration	Intranasal use

Dosage and administration details:

10 microgram per kg of naloxonehydrochloride was given as a spray. The injectable solution of 0.4 mg/ml was used.

<b>Number of subjects in period 1</b>	Intranasal naloxone
Started	20
Completed	20

## Baseline characteristics

### Reporting groups

Reporting group title	Intranasal naloxone
-----------------------	---------------------

Reporting group description:

Single group of healthy volunteers

Reporting group values	Intranasal naloxone	Total	
Number of subjects	20	20	
Age categorical			
Volunteers for 18-64 years			
Units: Subjects			
Adults (18-64 years)	20	20	
Age continuous			
healthy volunteers			
Units: years			
arithmetic mean	37		
full range (min-max)	22 to 64	-	
Gender categorical			
Units: Subjects			
Female	6	6	
Male	14	14	
Adults			
healthy volunteers			
Units: Subjects			
volunteers	20	20	

## End points

### End points reporting groups

Reporting group title	Intranasal naloxone
Reporting group description:	
Single group of healthy volunteers	

### Primary: Naloxone concentration in plasma

End point title	Naloxone concentration in plasma <sup>[1]</sup>
End point description:	

End point type	Primary
----------------	---------

End point timeframe:

At the time of analysis of plasma samples were completed and kinetic parameters calculated.

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No comparisons between groups. Descriptive analysis performed.

End point values	Intranasal naloxone			
Subject group type	Reporting group			
Number of subjects analysed	20			
Units: ng/ml				
number (not applicable)	20			

### Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information<sup>[1]</sup>

Timeframe for reporting adverse events:

During and after administration of the single dose given intra-nasally and up to 24 hours after administration

Assessment type	Systematic
-----------------	------------

### Dictionary used

Dictionary name	Study CRF
-----------------	-----------

Dictionary version	1
--------------------	---

### Reporting groups

Reporting group title	Intranasal naloxone
-----------------------	---------------------

Reporting group description:

20 healthy volunteers

Serious adverse events	Intranasal naloxone		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 20 (0.00%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	Intranasal naloxone		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 20 (0.00%)		

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.

Justification: There were no adverse effects. No discomfort or pain was noted in any subject as also noted in the clinical setting when naloxone is administered in patients.

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

---

### Interruptions (globally)

Were there any global interruptions to the trial? No

### Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

The number of subjects studied (20) could to some extent be considered as a limitation. Although the number included is often used in similar studies.
--

Notes:

---

### Online references

<http://www.ncbi.nlm.nih.gov/pubmed/28444856>