



Clinical trial results:

Hemodynamic effects from administration of body temperature warmed versus room temperature fluid boluses in healthy volunteers

Summary

EudraCT number	2016-002548-18
Trial protocol	SE
Global end of trial date	11 April 2017

Results information

Result version number	v1 (current)
This version publication date	16 June 2022
First version publication date	16 June 2022

Trial information

Trial identification

Sponsor protocol code	Studie1hemodynami
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03209271
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Karolinska Institutet Södersjukhuset
Sponsor organisation address	Sjukhusbacken 10, Stockholm, Sweden, 118 83
Public contact	KI SÖS, Karolinska Institutet Södersjukhuset, +46 8616 29 35,
Scientific contact	KI SÖS, Karolinska Institutet Södersjukhuset, +46 8616 29 35,

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	30 May 2018
Is this the analysis of the primary completion data?	Yes
Primary completion date	11 April 2017
Global end of trial reached?	Yes
Global end of trial date	11 April 2017
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To determine the difference in cardiac output between the two groups

Protection of trial subjects:

All trial subjects were screened for comorbidities and were all classified as ASA score I, meaning only subjects without previous medical issues were included, and only non-pregnant adults were considered for inclusion. All subjects were informed beforehand and gave written and oral consent to participation. All subjects were monitored during the trial for blood pressure, heart rate, temperature, cardiac output and saturation and were monitored by trained staff. The trial intervention is an intravenous fluid that is well known and has been extensively used with small risks in daily practice in healthy adults. Any incidents corresponding to known AE, SAE or SUSAR were monitored for and would be reported (theoretically anaphylaxis or respiratory issues. None were detected.

Background therapy:

None

Evidence for comparator: -

Actual start date of recruitment	01 February 2017
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Sweden: 21
Worldwide total number of subjects	21
EEA total number of subjects	21

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)	21

From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Recruitment was conducted from February 1 2017 in Stockholm, Sweden to March 28 2017

Pre-assignment

Screening details:

Inclusion criteria: 18 years or older and no significant health issues.

Exclusion criteria: ASA classification of 2 or above or known pregnancy.

Cross-over format where each subject was randomized to receive either control or intervention on their first visit, and the other on their second after >24hours washout.

Period 1

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

Blinding implementation details:

Blinding was not possible or meaningful since the outcomes were objective measurements, the subjects would clearly be able to tell the temperature infused when the infusion started, and the staff would be able to tell from the equipment if the fluid was cooled or warmed.

Arms

Are arms mutually exclusive?	No
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Arm title	Body temperature
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Arm description: -

Arm type	Experimental
Investigational medicinal product name	Ringers Acetate
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous bolus use

Dosage and administration details:

500ml administered intravenously via pump over 15 minutes

Arm title	Room temperature
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Arm description: -

Arm type	Active comparator
Investigational medicinal product name	Ringers Acetate
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous bolus use

Dosage and administration details:

500ml administered intravenously via pump over 15 minutes

Number of subjects in period 1	Body temperature	Room temperature
Started	21	21
Completed	21	20
Not completed	0	1
Data retrieval issue	-	1

Baseline characteristics

Reporting groups

Reporting group title	Body temperature
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Reporting group description: -

Reporting group title	Room temperature
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Reporting group description: -

Reporting group values	Body temperature	Room temperature	Total
Number of subjects	21	21	21
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	21	21	21
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	7	7	7
Male	14	14	14

End points

End points reporting groups

Reporting group title	Body temperature
Reporting group description: -	
Reporting group title	Room temperature
Reporting group description: -	

Primary: Change in cardiac index over 15 minutes

End point title	Change in cardiac index over 15 minutes
End point description:	
End point type	Primary
End point timeframe:	
15 minutes	

End point values	Body temperature	Room temperature		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	20 ^[1]	20 ^[2]		
Units: L/min/m ²				
median (confidence interval 95%)	0.09 (0.06 to 0.11)	0.03 (0.01 to 0.06)		

Notes:

[1] - Data was not retrieved from one study session from one subject, and could be used for analysis

[2] - Data was not retrieved from one study session from one subject, and could be used for analysis

Statistical analyses

Statistical analysis title	RMANOVA
Comparison groups	Body temperature v Room temperature
Number of subjects included in analysis	40
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.001
Method	ANOVA

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

The 2 study sessions and their monitoring periods.

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	10
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Reporting groups

Reporting group title	All subjects
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Reporting group description:

All test subjects

Serious adverse events	All subjects		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 21 (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	All subjects		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 21 (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: Not having any adverse events is not surprising considering we are using a very safe medication (just an intravenous fluid) in a small population of young healthy volunteers. They were all monitored for the known issues with this medication and none were found during this trial

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
09 February 2017	An amendment was made almost immediately upon trial start, due to errors with documentation and versions of the study protocol. It was incorrectly stated in one version of the initial application to the national MPA that the room temperature fluid would be at 25 degrees celsius rather than 22. This was incorrect and a request to amend this was submitted and granted by the MPA. No change was made in the actual trial management, all fluid given in the room temperature arm was at 22 degrees and no subjects were exposed to any risk due to this

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/30482135>