Clinical trial results:
Concentration of Meropenem in Plasma and Subcutis in Patients on ECMO Treatment

Summary

EudraCT number	2015-000218-23
Trial protocol	DK
Global end of trial date	04 May 2016

Results information

Result version number	v1 (current)
This version publication date	14 December 2017
First version publication date	14 December 2017

Trial information

Trial identification

Sponsor protocol code	131188

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Ortopædkirurgisk afdeling, Aarhus Universitetshospital
Sponsor organisation address	Tage-Hansens Gade 2, Aarhus C, Denmark, 8000
Public contact	Pelle Hanberg, Aarhus University Hospital, 0045 28744852, pellehanberg@hotmail.com
Scientific contact	Pelle Hanberg, Aarhus University Hospital, 0045 28744852, pellehanberg@hotmail.com

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	01 September 2017
Is this the analysis of the primary completion data?	Yes
Primary completion date	04 May 2016
Global end of trial reached?	Yes
Global end of trial date	04 May 2016
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The objective og this trial is to asses the penetration og meropenem into subcutis using the pharmacokinetic tool microdialysis. The primary endpoint is the time above the minimal inhibitory concentration (T>MIC). Secondary endpoints are standard pharmacokinetic parameters.

Protection of trial subjects:

Measures to trial subjects a good experience with clinical trials.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 April 2015
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	Denmark: 10
Worldwide total number of subjects	10
EEA total number of subjects	10

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)	8
From 65 to 84 years	2
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

Criteria to fulfil: age 18 or above, in treatment with meropenem, ongoing ECMO-treatment (<96 hours since start-up of ECMO-treatment, heavily sedated). Exclusion criteria: allergy to meropenem, pregnancy.

Period 1

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

Arms

Arm title	overall trial

Arm description:

All subjects recieved either 1,000 or 2,000 milligrams of meropenem. No randomisation.

Arm type	All subjects recieved the same amount of drug
Investigational medicinal product name	meropenem "eberth"
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solvent for concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

1,000 or 2,000 mg milligram(s) administered over 5 min.
Patient 1, 2, 3, 4, 6, 9, and 10 received 1,000 mg.
Patient 5, 7, and 8 received 2,000 mg.

Number of subjects in period 1	overall trial
Started	10
Completed	10

Baseline characteristics

Reporting groups

Reporting group title	overall trial

Reporting group description: -

Reporting group values	overall trial	Total	
Number of subjects	10	10	
Age categorical Units: Subjects			
In utero	0	0	
Preterm newborn infants (gestational age < 37 wks)	0	0	
Newborns (0-27 days)	0	0	
Infants and toddlers (28 days-23 months)	0	0	
Children (2-11 years)	0	0	
Adolescents (12-17 years)	0	0	
Adults (18-64 years)	8	8	
From 65-84 years	2	2	
85 years and over	0	0	
Gender categorical Units: Subjects			
Female	4	4	
Male	6	6	

Subject analysis sets

Subject analysis set title	overall trial
Subject analysis set type	Full analysis

Subject analysis set description:

Concentrations values of meropenem in subcutis and plasma.

Reporting group values	overall trial		
Number of subjects	10		
Age categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	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)	8		
From 65-84 years	2		
85 years and over	0		

Gender categorical Units: Subjects			
Female	4		
Male	6		

End points

End points reporting groups

Reporting group title	overall trial
Reporting group description:	
All subjects recieved either 1,000 or 2,000 milligrams of meropenem. No randomisation.	
Subject analysis set title	overall trial
Subject analysis set type	Full analysis
Subject analysis set description:	
Concentrations values of meropenem in subcutis and plasma.	

Primary: overall trial

End point title	overall trial[1]
End point description:	
concentrations in milligrams/litre at the following points: subcutis: 7.5 min, 22.5 min, 37.5 min, 52.5 min, 75 min, 105 min, 135 min, 165 min, 195 min, 225 min, 285 min, 330 min, 390 min, 450 min. Plasma: 10 min, 20 min, 30 min, 45 min, 60 min, 120 min, 180 min, 240 min, 480 min. Furthermore, two blood samples were collected on day 2, 4, and 6 at time 60 min and 480 min after the second meropenem dose administrated that day.	
End point type	Primary
End point timeframe:	
from time 0 to day 6	

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: Under "Charts" the full dataset has been uploaded as a PDF-file. All measured meropenem values from subcutis and plasma (in milligrams/L) from all the patients are included ind the file. With this dataset, people can make their owen statistical analyses.

End point values	overall trial	overall trial		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	10	10		
Units: milligram(s)/litre				
number (not applicable)	10	10		

Attachments (see zip file)	Patient meropenem concentrations/Patient meropenem

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information[1]

Timeframe for reporting adverse events:

from placement of the microdialysis catheter until the last collected blood sample at day 6.

Assessment type	Non-systematic

Dictionary used

Dictionary name	produktresume
Dictionary version	20.okt2014

Reporting groups

Reporting group title	overall trial

Reporting group description:

All subjects recieved either 1,000 or 2,000 milligrams of meropenem. No randomisation.

Serious adverse events	overall trial		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 10 (0.00%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	overall trial		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 10 (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: We had no non-serious adverse event in this trial.

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

None reported