



## Clinical trial results: High Dose Antioxidant Treatment for Patients with Cystic Fibrosis Summary

EudraCT number	2013-005481-19
Trial protocol	DK
Global end of trial date	30 September 2015

### Results information

Result version number	v1 (current)
This version publication date	22 June 2016
First version publication date	22 June 2016

### Trial information

#### Trial identification

Sponsor protocol code	2013-01
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#### Additional study identifiers

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

Notes:

#### Sponsors

Sponsor organisation name	Aarhus University Hospital
Sponsor organisation address	Brendstrupsgaardvej 100, Aarhus N, Denmark, 8200
Public contact	Pediatric Department A, Aarhus University Hospital, peschi@rm.dk
Scientific contact	Pediatric Department A, Aarhus University Hospital, peschi@rm.dk

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 September 2015
Is this the analysis of the primary completion data?	Yes
Primary completion date	30 September 2015
Global end of trial reached?	Yes
Global end of trial date	30 September 2015
Was the trial ended prematurely?	No

Notes:

## General information about the trial

Main objective of the trial:

To evaluate if high dose antioxidant treatment (per oral and inhalation) can inhibit the oxidative stress mediated inflammation in cystic fibrosis patients lung. The inflammation with neutrophil leucocytes is monitored by Pet/CT scan

Protection of trial subjects:

To minimize pain in relation to blood sampling the patients were offered local anesthetics. No other measures were taken

Background therapy:

Pancreatic enzymes - vitamin supplementation- PEP mask therapy- pulmozyme inhalation

Evidence for comparator: -

Actual start date of recruitment	01 May 2014
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	Denmark: 11
Worldwide total number of subjects	11
EEA total number of subjects	11

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)	3
Adolescents (12-17 years)	8
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

## Subject disposition

### Recruitment

Recruitment details:

Patients were contacted during routine control visits in the outpatient Clinic and asked if they wanted to participate. Recruitment period August 2014 - April 2015

### Pre-assignment

Screening details:

14 pts. were screened. 2 did not want to participate and one suffered from liver disease and had to be excluded.

### 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

<b>Arm title</b>	medical intervention
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Arm description:

All patients had the same run in period where they should be clinically stable and without anti-inflammatory treatment, then scan and tests were performed and thereafter they received Medical intervention (N acetylcysteine) for 14 days. All tests were then repeated and the trial was over.

Arm type	Experimental
Investigational medicinal product name	Mucomyst or ACC
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Effervescent tablet, Tablet
Routes of administration	Oral use

Dosage and administration details:

100 mg/kg/24hrs in 3 divided doses given per oral. The patients decided themselves whether they wanted mucomyst or ACC

Investigational medicinal product name	Glutathione (TAD)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Inhalation vapour, solution
Routes of administration	Intrapulmonary use

Dosage and administration details:

Inhalations were given 2 times daily 600 mg x2

<b>Number of subjects in period 1</b>	medical intervention
Started	11
Completed	11



## Baseline characteristics

### Reporting groups

Reporting group title	Overall trial
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Reporting group description: -

Reporting group values	Overall trial	Total	
Number of subjects	11	11	
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)	3	3	
Adolescents (12-17 years)	8	8	
Adults (18-64 years)	0	0	
From 65-84 years	0	0	
85 years and over	0	0	
Gender categorical			
Units: Subjects			
Female	6	6	
Male	5	5	
Genotypic verified cystic fibrosis			
Units: Subjects			
CF Genotype	11	11	
Pulmonary status			
Units: Subjects			
Forced vital capacity > 75%	11	11	
clinical status			
Units: Subjects			
clinically stable	11	11	

## End points

### End points reporting groups

Reporting group title	medical intervention
Reporting group description: All patients had the same run in period where they should be clinically stable and with out anti inflammatory treatment , then scan and tests were performed and there after they recieved Medical intervention (N acetylcysteine) for 14 dys. All tests were then repeated and the trial was over.	
Subject analysis set title	Post treatment
Subject analysis set type	Per protocol
Subject analysis set description: Post treatment	

### Primary: neutrophil metabolic activity

End point title	neutrophil metabolic activity
End point description: PET-CT scan was carried out 60 minutes after iv injection of 18 F-FDG injection and patient was scanned 6 mins over parts of the lung of interest.	
End point type	Primary
End point timeframe: Pet CT scan was performed early on the day when antioxidant therapy was begun and Again 14 days later.	

End point values	medical intervention	Post treatment		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	7 <sup>[1]</sup>	7		
Units: Standard uptake values (SUV)				
median (full range (min-max))	0.33 (0.27 to 0.48)	0.36 (0.26 to 0.48)		

Notes:

[1] - 4 patients did not complete the trial. Pre-post pairs are included.

### Statistical analyses

Statistical analysis title	Wilcoxon signed rank test
Comparison groups	medical intervention v Post treatment
Number of subjects included in analysis	14
Analysis specification	Pre-specified
Analysis type	other
P-value	< 0.001
Method	Wilcoxon (Mann-Whitney)

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

2 weeks.

Adverse event reporting additional description:

patients diaries, Anamnestic review at the final visit with investigator. Blood tests and physical examination.

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	19
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### Reporting groups

Reporting group title	1medical intervention
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Reporting group description:

All patients had the same run in period where they should be clinically stable and with out anti inflammatory treatment , then scan and tests were performed and there after they recieved Medical intervention (N acetylcysteine) for 14 dys. All tests were then repeated and the trial was over.

<b>Serious adverse events</b>	1medical intervention		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 11 (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 %

<b>Non-serious adverse events</b>	1medical intervention		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	2 / 11 (18.18%)		
Gastrointestinal disorders			
Diarrhoea	Additional description: One day with diarrhoea		
subjects affected / exposed	1 / 11 (9.09%)		
occurrences (all)	1		
Infections and infestations			
common cold			
subjects affected / exposed	1 / 11 (9.09%)		
occurrences (all)	1		



## **More information**

### **Substantial protocol amendments (globally)**

Were there any global substantial amendments to the protocol? No

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### **Interruptions (globally)**

Were there any global interruptions to the trial? No

### **Limitations and caveats**

None reported