Clinical trial results:
Pilot study investigating the effect of intra-coronary and intra-myocardial application of enriched CD133pos autologous bone marrow derived stem cells for improving left ventricular function in chronic ischemic cardiomyopathy

Summary

EudraCT number	2009-013103-63
Trial protocol	DE
Global end of trial date	02 November 2016

Results information

Result version number	v1 (current)
This version publication date	09 October 2020
First version publication date	09 October 2020
Summary attachment (see zip file)	Final Report-2009-013103-63-#1884-AlsterMACS (2009-013103-63-#1884-AlsterMACS final report.doc)

Trial information

Trial identification

Sponsor protocol code	1884

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01337011
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Asklepios Kliniken Hamburg GmbH
Sponsor organisation address	Ruebenkamp 226, Hamburg, Germany, 22307
Public contact	Dr. Kai Jaquet, ASKLEPIOS proresearch, +49 040181885-3034, k.jaquet@asklepios.com
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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	02 November 2016
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 November 2016
Global end of trial reached?	Yes
Global end of trial date	02 November 2016
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To assess the safety, feasibility, and efficacy of intra-myocardial as well as intra-coronary CD133pos. BM cell therapy on left ventricular ejection fraction as measured by echocardiography.

Protection of trial subjects:

Whole intervention is done under sedation.

Background therapy:

Standard of care according to medical guidelines at that time

Evidence for comparator: -

Actual start date of recruitment	01 November 2011
Long term follow-up planned	Yes
Long term follow-up rationale	Safety, Efficacy
Long term follow-up duration	12 Months
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Germany: 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)	9
From 65 to 84 years	1
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Recruitment of 6 patients in 2012 and 4 patients in 2013

Pre-assignment

Screening details:

Patients with chronic heart disease

Pre-assignment period milestones

Number of subjects started	10
Number of subjects completed	10

Period 1

Period 1 title	AlsterMACS (overall period)
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	intra-coronary application

Arm description:

Intracoronary application of CD133pos. autologous bone marrow derived stem cells

Arm type	Active comparator
Investigational medicinal product name	CD133pos. autologous bone marrow derived stem cells
Investigational medicinal product code	
Other name	CD133pos. autologous bone marrow derived stem cells
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intracardiac use

Dosage and administration details:

single dose

Arm title	intra-myocardial CD133+

Arm description:

intra-myocardial application of CD133po. cells

Arm type	Active comparator
Investigational medicinal product name	CD133pos. autologous bone marrow derived stem cells
Investigational medicinal product code	
Other name	CD133+
Pharmaceutical forms	Concentrate for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

total number of transplanted CD133+ BMNC = approx. 0.7 - 1.0 Mill. cells per patient

Number of subjects in period 1	intra-coronary application	intra-myocardial CD133+
Started	8	2
Completed	8	2

Baseline characteristics

Reporting groups	
Reporting group title	intra-coronary application
Reporting group description:	
Intracoronary application of CD133pos. autologous bone marrow derived stem cells	
Reporting group title	intra-myocardial CD133+
Reporting group description:	
intra-myocardial application of CD133po. cells	

Reporting group values	intra-coronary application	intra-myocardial CD133+	Total
Number of subjects	8	2	10
Age categorical			
inclusion criterium age: adults (18-64 years) and adults (65-84 years)			
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)	8	2	10
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	0	0	0
Male	8	2	10

Subject analysis sets	
Subject analysis set title	CD133+ intramyocardial+intracoronary
Subject analysis set type	Per protocol
Subject analysis set description:	
Pilot study investigating the effect of intra-coronary and intra-myocardial application of enriched CD133pos autologous bone marrow derived stem cells for improving left ventricular function in chronic ischemic cardiomyopathy	

Reporting group values	CD133+ intramyocardial+intracoronary		
Number of subjects	10		
Age categorical			
inclusion criterium age: adults (18-64 years) and adults (65-84 years)			
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)	10		
From 65-84 years	0		
85 years and over	0		
Gender categorical			
Units: Subjects			
Female			
Male			

End points

End points reporting groups

Reporting group title	intra-coronary application
Reporting group description:	
Intracoronary application of CD133pos. autologous bone marrow derived stem cells	
Reporting group title	intra-myocardial CD133+
Reporting group description:	
intra-myocardial application of CD133po. cells	
Subject analysis set title	CD133+ intramyocardial+intracoronary
Subject analysis set type	Per protocol
Subject analysis set description:	
Pilot study investigating the effect of intra-coronary and intra-myocardial application of enriched CD133pos autologous bone marrow derived stem cells for improving left ventricular function in chronic ischemic cardiomyopathy	

Primary: safety

End point title	safety
End point description:	
no pericardial effusion, no additional hospitalisation, no death	
End point type	Primary
End point timeframe:	
12 months	

End point values	intra-coronary application	intra-myocardial CD133+	CD133+ intramyocardial +intracoronary	
Subject group type	Reporting group	Reporting group	Subject analysis set	
Number of subjects analysed	8	2	10	
Units: hospitalisation				
number (not applicable)	0	0	0	

Statistical analyses

Statistical analysis title	paired t-test
Statistical analysis description:	
Analysis of primary hypotheses: The first primary hypothesis - change in ejection fraction between baseline vs. 6months – will be proved using a paired t-test.	
Comparison groups	intra-coronary application v intra-myocardial CD133+
Number of subjects included in analysis	10
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	< 0.05
Method	t-test, 2-sided
Parameter estimate	Mean difference (final values)

Adverse events

Adverse events information	
Timeframe for reporting adverse events: 12 months	
Assessment type	Non-systematic
Dictionary used	
Dictionary name	ClinicalTrials.gov
Dictionary version	PRV
Reporting groups	
Reporting group title	cell therapy group (intra-myo)
Reporting group description: Cell therapy group (intra-myocardial application of CD133+ BMNC)	
Reporting group title	cell therapy group (intra-coro)
Reporting group description: cell therapy group (intra-coronary application of CD133+ BMNC)	

Serious adverse events	cell therapy group (intra-myo)	cell therapy group (intra-coro)	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 8 (0.00%)	0 / 2 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

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

Non-serious adverse events	cell therapy group (intra-myo)	cell therapy group (intra-coro)	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	2 / 8 (25.00%)	1 / 2 (50.00%)	
Cardiac disorders			
Ventricular arrhythmia	Additional description: ventricular tachycardia		
subjects affected / exposed	2 / 8 (25.00%)	1 / 2 (50.00%)	
occurrences (all)	2	1	

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.

Due to financial problems and leaving of PI, study had to be cancelled.

Notes: