



## Clinical trial results:

### A randomized, double-blind, placebo controlled multiple dose study of subcutaneous ACZ885 for the treatment of abdominal aortic aneurysm

#### Summary

EudraCT number	2013-002088-25
Trial protocol	SE NL DK GB DE
Global end of trial date	21 October 2015

#### Results information

Result version number	v1 (current)
This version publication date	15 October 2016
First version publication date	15 October 2016

#### Trial information

##### Trial identification

Sponsor protocol code	CACZ885X2201
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##### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02007252
WHO universal trial number (UTN)	-

Notes:

#### Sponsors

Sponsor organisation name	Novartis Pharma AG
Sponsor organisation address	CH-4002, Basel, Switzerland,
Public contact	Clinical Disclosure Office, Novartis Pharma AG, 41 613241111,
Scientific contact	Clinical Disclosure Office, Novartis Pharma AG, 41 613241111,

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	21 October 2015
Is this the analysis of the primary completion data?	No
Global end of trial reached?	Yes
Global end of trial date	21 October 2015
Was the trial ended prematurely?	Yes

Notes:

## General information about the trial

Main objective of the trial:

The primary objective was to assess the effect of ACZ885 on AAA size and growth rate as measured with ultrasound at 12 months.

Protection of trial subjects:

The study was in compliance with the ethical principles derived from the Declaration of Helsinki and the International Conference on Harmonization (ICH) Good Clinical Practice (GCP) guidelines. All the local regulatory requirements pertinent to safety of trial subjects were also followed during the conduct of the trial.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	09 December 2013
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: 33
Country: Number of subjects enrolled	United Kingdom: 3
Country: Number of subjects enrolled	Netherlands: 7
Country: Number of subjects enrolled	Sweden: 21
Worldwide total number of subjects	64
EEA total number of subjects	64

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)	10

From 65 to 84 years	53
85 years and over	1

## Subject disposition

### Recruitment

Recruitment details: -

### Pre-assignment

Screening details:

A total of 65 participants were randomized in a 1:1 ratio to one of the two treatment groups. One participant discontinued prior to taking any study medication. As such, the participant flow is based on 64 randomized participants.

### Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Carer, Data analyst, Assessor

### Arms

Are arms mutually exclusive?	Yes
<b>Arm title</b>	ACZ885

Arm description:

Participants received ACZ885 150 mg subcutaneously (s.c.) once per month for 12 months.

Arm type	Experimental
Investigational medicinal product name	ACZ885
Investigational medicinal product code	ACZ885
Other name	
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

150 mg once per month for 12 months

<b>Arm title</b>	Placebo
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Arm description:

Participants received matching placebo to ACZ885 s.c. once per month for 12 months.

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

Matching placebo to ACZ885 once per month for 12 months

<b>Number of subjects in period 1</b>	ACZ885	Placebo
Started	31	33
Safety analysis set	31	33
Pharmacodynamic analysis set	31	33
Completed	20	22
Not completed	11	11
Abnormal laboratory value(s)	1	-
Adverse event, non-fatal	7	4
Administrative problems	3	7

## Baseline characteristics

### Reporting groups

Reporting group title	ACZ885
Reporting group description:	
Participants received ACZ885 150 mg subcutaneously (s.c.) once per month for 12 months.	
Reporting group title	Placebo
Reporting group description:	
Participants received matching placebo to ACZ885 s.c. once per month for 12 months.	

Reporting group values	ACZ885	Placebo	Total
Number of subjects	31	33	64
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)	6	4	10
From 65-84 years	24	29	53
85 years and over	1	0	1
Age Continuous Units: Years			
arithmetic mean	69.4	70.8	
standard deviation	± 7.44	± 5.84	-
Gender, Male/Female Units: Subjects			
Female	4	7	11
Male	27	26	53

## End points

### End points reporting groups

Reporting group title	ACZ885
Reporting group description:	
Participants received ACZ885 150 mg subcutaneously (s.c.) once per month for 12 months.	
Reporting group title	Placebo
Reporting group description:	
Participants received matching placebo to ACZ885 s.c. once per month for 12 months.	

### Primary: Change from baseline (BL) in Abdominal Aortic Aneurysm (AAA) size per year

End point title	Change from baseline (BL) in Abdominal Aortic Aneurysm (AAA) size per year
End point description:	
Size of the AAA was determined using an abdominal ultrasound technique at baseline, 3 months, and 12 months after treatment with study drug. Growth rate (in mm/year) was calculated from the change in AAA size compared to baseline	
End point type	Primary
End point timeframe:	
month 3, month 12	

End point values	ACZ885	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	31	33		
Units: millimeter/year				
least squares mean (confidence interval 90%)				
Month 3 (n=23,31)	0.781 (-0.942 to 5.504)	2.519 (1.03 to 4.008)		
Month 12 (n=20,23)	2.538 (1.465 to 3.612)	2.581 (1.612 to 3.549)		

### Statistical analyses

Statistical analysis title	Change from BL in AAA size per year at month 3
Comparison groups	ACZ885 v Placebo
Number of subjects included in analysis	64
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.1037
Method	ANCOVA

<b>Statistical analysis title</b>	Change from BL in AAA size per year at month 12
Comparison groups	ACZ885 v Placebo
Number of subjects included in analysis	64
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.4806
Method	ANCOVA



## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Adverse events are collected from First Patient First Visit (FPFV) until Last Patient Last Visit (LPLV). All adverse events reported in this record are from date of First Patient First Treatment until Last Patient Last Visit.

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
Dictionary version	18.1

### Reporting groups

Reporting group title	ACZ885 150 mg
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Reporting group description:

ACZ885 150 mg

Reporting group title	Placebo
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Reporting group description:

Placebo

Serious adverse events	ACZ885 150 mg	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 31 (6.45%)	0 / 33 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Injury, poisoning and procedural complications			
Hip fracture			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vascular disorders			
Aortic aneurysm			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

<b>Non-serious adverse events</b>	ACZ885 150 mg	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	28 / 31 (90.32%)	28 / 33 (84.85%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Bladder cancer stage 0, with cancer in situ			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Vascular disorders			
Hot flush			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Hypertension			
subjects affected / exposed	4 / 31 (12.90%)	3 / 33 (9.09%)	
occurrences (all)	4	3	
Aortic aneurysm			
subjects affected / exposed	1 / 31 (3.23%)	2 / 33 (6.06%)	
occurrences (all)	1	2	
Intermittent claudication			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Thrombophlebitis			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
General disorders and administration site conditions			
Energy increased			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Fatigue			
subjects affected / exposed	2 / 31 (6.45%)	0 / 33 (0.00%)	
occurrences (all)	2	0	
Injection site hypersensitivity			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Influenza like illness			

subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Impaired healing subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Injection site pain subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Oedema peripheral subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	4 / 33 (12.12%) 5	
Malaise subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Injection site swelling subjects affected / exposed occurrences (all)	3 / 31 (9.68%) 4	2 / 33 (6.06%) 3	
Reproductive system and breast disorders Breast cyst subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Respiratory, thoracic and mediastinal disorders Chronic obstructive pulmonary disease subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	2 / 33 (6.06%) 2	
Cough subjects affected / exposed occurrences (all)	3 / 31 (9.68%) 3	1 / 33 (3.03%) 1	
Oropharyngeal pain subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Haemoptysis subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Epistaxis			

subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Dyspnoea subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Psychiatric disorders Depression subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Insomnia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Investigations Alanine aminotransferase increased subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	2 / 33 (6.06%) 2	
Aspartate aminotransferase increased subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	2 / 33 (6.06%) 2	
Blood creatinine increased subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Blood glucose increased subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
International normalised ratio increased subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Occult blood positive subjects affected / exposed occurrences (all)	2 / 31 (6.45%) 2	0 / 33 (0.00%) 0	
Prostatic specific antigen increased subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Injury, poisoning and procedural complications			

Contusion			
subjects affected / exposed	1 / 31 (3.23%)	1 / 33 (3.03%)	
occurrences (all)	1	1	
Foot fracture			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Ligament sprain			
subjects affected / exposed	1 / 31 (3.23%)	1 / 33 (3.03%)	
occurrences (all)	1	1	
Wound			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Cardiac disorders			
Atrial fibrillation			
subjects affected / exposed	2 / 31 (6.45%)	0 / 33 (0.00%)	
occurrences (all)	2	0	
Angina pectoris			
subjects affected / exposed	0 / 31 (0.00%)	2 / 33 (6.06%)	
occurrences (all)	0	2	
Atrioventricular block second degree			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Nervous system disorders			
Amnesia			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Dizziness			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Headache			
subjects affected / exposed	2 / 31 (6.45%)	0 / 33 (0.00%)	
occurrences (all)	2	0	
Transient ischaemic attack			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Syncope			

subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Sciatica subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Blood and lymphatic system disorders Anaemia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Eye disorders Cataract subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Gastrointestinal disorders Gastric ulcer subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Diarrhoea subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Abdominal pain upper subjects affected / exposed occurrences (all)	2 / 31 (6.45%) 2	0 / 33 (0.00%) 0	
Abdominal pain subjects affected / exposed occurrences (all)	3 / 31 (9.68%) 3	1 / 33 (3.03%) 1	
Vomiting subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Oesophagitis subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Nausea subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Haematochezia			

subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Gastroesophageal reflux disease subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	2 / 33 (6.06%) 2	
Skin and subcutaneous tissue disorders			
Night sweats subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Blister subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Telangiectasia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Renal and urinary disorders			
Urinary retention subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	1 / 33 (3.03%) 1	
Musculoskeletal and connective tissue disorders			
Arthralgia subjects affected / exposed occurrences (all)	2 / 31 (6.45%) 2	2 / 33 (6.06%) 2	
Back pain subjects affected / exposed occurrences (all)	4 / 31 (12.90%) 4	3 / 33 (9.09%) 3	
Groin pain subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Musculoskeletal pain subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Myalgia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 2	1 / 33 (3.03%) 2	
Osteoarthritis			

subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Osteoporosis			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Pain in extremity			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Infections and infestations			
Erysipelas			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Gastroenteritis			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Influenza			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Tooth infection			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Sinusitis			
subjects affected / exposed	1 / 31 (3.23%)	0 / 33 (0.00%)	
occurrences (all)	1	0	
Rhinitis			
subjects affected / exposed	2 / 31 (6.45%)	1 / 33 (3.03%)	
occurrences (all)	2	1	
Respiratory tract infection			
subjects affected / exposed	0 / 31 (0.00%)	1 / 33 (3.03%)	
occurrences (all)	0	1	
Pneumonia			
subjects affected / exposed	2 / 31 (6.45%)	1 / 33 (3.03%)	
occurrences (all)	3	1	
Nasopharyngitis			
subjects affected / exposed	5 / 31 (16.13%)	3 / 33 (9.09%)	
occurrences (all)	8	5	



Upper respiratory tract infection subjects affected / exposed occurrences (all)	2 / 31 (6.45%) 2	1 / 33 (3.03%) 1	
Vestibular neuronitis subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Urinary tract infection subjects affected / exposed occurrences (all)	2 / 31 (6.45%) 2	1 / 33 (3.03%) 1	
Metabolism and nutrition disorders			
Diabetes mellitus subjects affected / exposed occurrences (all)	0 / 31 (0.00%) 0	1 / 33 (3.03%) 1	
Hyperlipidaemia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	0 / 33 (0.00%) 0	
Hypercholesterolaemia subjects affected / exposed occurrences (all)	1 / 31 (3.23%) 1	2 / 33 (6.06%) 2	

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
19 November 2013	The primary purpose of this protocol amendment was to clarify the exclusion criteria for patients with immune disorders or thrombocytopenia. An exclusion criterion was added to prevent patients with neutropenia, leukopenia, or thrombocytopenia from entering the study. Also, the individual stopping rules within this study have been modified to reflect this criterion. The other modifications were provided below: 1. A greater clarification was provided regarding the use of clopidogrel in patients with vascular stents. Specific language was added to allow the use of clopidogrel in this situation. 2. At sites in the USA where CT scans were performed, the use of historical CT scans was proposed in order to reduce the radiation exposure to patients who had recently undergone an abdominal CT scan prior to their entry into this clinical trial. The protocol was modified to allow the use of an abdominal CT scan obtained within 60 days of first dose to be used in place of the Screening CT scan. 3. Additional details regarding the planned statistical analysis of trial data were added and a few typographical inconsistencies in the protocol were corrected.

Notes:

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### 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.

This study was terminated prematurely because the results of a third interim analysis (ad hoc) indicated a lack of efficacy and futility in continuing the trial.

Notes: