



## Clinical trial results:

**A prospective, bicentric, randomised, primarily double blind, placebo-controlled study to evaluate the efficacy of zoledronic acid for the treatment of bone marrow syndrome**

### Summary

EudraCT number	2010-019415-38
Trial protocol	DE
Global end of trial date	26 August 2015

### Results information

Result version number	v1 (current)
This version publication date	22 July 2021
First version publication date	22 July 2021

### Trial information

#### Trial identification

Sponsor protocol code	CZOL446HDE38T
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#### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01348269
WHO universal trial number (UTN)	-

Notes:

### Sponsors

Sponsor organisation name	University Hospital Wuerzburg
Sponsor organisation address	Josef-Schneider-Str. 2, Wuerzburg, Germany, 97080
Public contact	Dr. Lothar Seefried, University Hospital Wuerzburg Clinical Study Unit Department of Orthopaedics Koenig-Ludwig-Haus, 0049 9318033590, l-seefried.klh@uni-wuerzburg.de
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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	03 August 2016
Is this the analysis of the primary completion data?	Yes
Primary completion date	26 August 2015
Global end of trial reached?	Yes
Global end of trial date	26 August 2015
Was the trial ended prematurely?	No

Notes:

## General information about the trial

Main objective of the trial:

The primary aim is to test the reduction of bone marrow edema syndrome after a singular intravenous treatment with Zoledronic Acid within 6 weeks compared to placebo. The volume of the edema is defined as biometric data measured by the use of MRT before and six weeks after treatment. The hypothesis has to be checked whether Zoledronic Acid is efficient in the treatment of painful bone marrow edema. A statistically significant reduction of the edema in the MRT is considered as evidence for efficacy.

Protection of trial subjects:

Safety monitoring (adverse Events, serious adverse Events, adverse drug reactions) and continuous assessment of laboratory values (clinical chemistry, hematology)

Background therapy:

All patients received Vitamin D background therapy.

Evidence for comparator:

Placebo-controlled study. No active comparator was used.

Actual start date of recruitment	01 June 2011
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	Germany: 48
Worldwide total number of subjects	48
EEA total number of subjects	48

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)	42

From 65 to 84 years	6
85 years and over	0

## Subject disposition

### Recruitment

Recruitment details:

First patient (FPFV) was enrolled on 13-Jul-2011 and last patient (LPFV) was enrolled on 26-May-2015. All patients were recruited by a single center in Germany.

### Pre-assignment

Screening details:

Suitable patients were selected by the investigator. A total of 63 patients were screened. 15 patients were deemed screening failure and eight of these patients were randomized but did not receive intervention.

### Pre-assignment period milestones

Number of subjects started	63 <sup>[1]</sup>
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Number of subjects completed	48
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### Pre-assignment subject non-completion reasons

Reason: Number of subjects	Screening failure: 7
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Reason: Number of subjects	Screening failure - randomized w/o intervention: 8
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Notes:

[1] - The number of subjects reported to have started the pre-assignment period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: As not all randomized patients received study medication, more patients were enrolled than specified in worldwide number of enrolled in the trial. Randomized patients not receiving study medication were replaced. In total, 56 patients were enrolled. Of these 56 patients, 48 patients received study medication and were considered for analysis.

### Period 1

Period 1 title	Baseline
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Is this the baseline period?	Yes
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Allocation method	Randomised - controlled
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Blinding used	Double blind
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Roles blinded	Subject, Investigator
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### Arms

Are arms mutually exclusive?	Yes
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Arm title	Zoledronic acid
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Arm description:

Patients in this arm received zoledronic acid

Arm type	Experimental
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Investigational medicinal product name	Zoledronic acid
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Investigational medicinal product code	
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Other name	
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Pharmaceutical forms	Solution for infusion
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Routes of administration	Infusion
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Dosage and administration details:

5 mg zoledronic acid (0.05 mg/ml solution; 100 ml)

Arm title	Placebo
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Arm description:

Patients in this arm received placebo.

Arm type	Placebo
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Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Infusion
Dosage and administration details:	
0.9 % NaCl solution (100 ml)	

Number of subjects in period 1	Zoledronic acid	Placebo
Started	34	14
Completed	34	14

## Period 2

Period 2 title	Treatment   Core Study (until week 6)
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

## Arms

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

Arm description:

Patients in this arm received zoledronic acid.

Arm type	Experimental
Investigational medicinal product name	Zoledronic acid
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Infusion

Dosage and administration details:

5 mg zoledronic acid (0.05 mg/ml solution; 100 ml)

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

Patients in this arm received placebo.

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Infusion

Dosage and administration details:

0.9 % NaCl solution (100 ml)

Number of subjects in period 2	Zoledronic acid	Placebo
Started	34	14
Completed	34	14

### Period 3

Period 3 title	Follow-up (until week 12)
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

### Arms

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

Arm description: -

Arm type	Experimental
Investigational medicinal product name	Zoledronic acid
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Infusion

Dosage and administration details:

5 mg zoledronic acid (0.05 mg/ml solution; 100 ml)

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

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Infusion

Dosage and administration details:

0.9 % NaCl solution (100 ml)

<b>Number of subjects in period 3</b>	Zoledronic acid	Placebo
Started	34	14
Completed	32	13
Not completed	2	1
Surgical intervention - Not study related	1	-
Subsequent follow-up treatment required	-	1
Adverse event, non-fatal	1	-

## Baseline characteristics

### Reporting groups

Reporting group title	Zoledronic acid
Reporting group description:	
Patients in this arm received zoledronic acid	
Reporting group title	Placebo
Reporting group description:	
Patients in this arm received placebo.	

Reporting group values	Zoledronic acid	Placebo	Total
Number of subjects	34	14	48
Age categorical			
Units: Subjects			
Adults (18-64 years)	29	13	42
From 65-84 years	5	1	6
Age continuous			
Units: years			
arithmetic mean	50.1	53.6	-
standard deviation	± 12.9	± 6.8	-
Gender categorical			
Units: Subjects			
Female	12	4	16
Male	22	10	32
Severity of disease			
Units: Subjects			
mild	4	2	6
moderate	22	10	32
severe	8	2	10
Pain (VAS)			
Assessment of pain as measured by a visual analog scale (VAS)			
Units: arbitrary units			
arithmetic mean	36.9	34.1	-
standard deviation	± 27.4	± 21.1	-
Qualeffo-41			
Assessment of quality of life by Qualeffo-41 questionnaire - Quality of life questionnaire of the European Foundation for Osteoporosis			
Units: arbitrary units			
arithmetic mean	2.1	2.2	-
standard deviation	± 0.5	± 0.6	-
Subjective estimation of medical condition (PDI)			
Subjective estimation of medical condition (Pain Disability Index)			
Units: arbitrary units			
arithmetic mean	20.8	21.3	-
standard deviation	± 6.8	± 6.4	-



## Subject analysis sets

Subject analysis set title	Modified ITT   Zoledronic acid
Subject analysis set type	Modified intention-to-treat

Subject analysis set description:

Modified ITT for analysis of primary endpoint (omitting outlier value of one patient with in placebo group [ $>500\%$  increase in edema volumen])).

Subject analysis set title	Modified ITT   Placebo
Subject analysis set type	Modified intention-to-treat

Subject analysis set description:

Modified ITT for analysis of primary endpoint (omitting outlier value of one patient with in placebo group [ $>500\%$  increase in edema volumen])).

Reporting group values	Modified ITT   Zoledronic acid	Modified ITT   Placebo	
Number of subjects	34	13	
Age categorical			
Units: Subjects			
Adults (18-64 years)	29	12	
From 65-84 years	5	1	
Age continuous			
Units: years			
arithmetic mean			
standard deviation	$\pm$	$\pm$	
Gender categorical			
Units: Subjects			
Female			
Male			
Severity of disease			
Units: Subjects			
mild			
moderate			
severe			
Pain (VAS)			
Assessment of pain as measured by a visual analog scale (VAS)			
Units: arbitrary units			
arithmetic mean			
standard deviation	$\pm$	$\pm$	
Qualeffo-41			
Assessment of quality of life by Qualeffo-41 questionnaire - Quality of life questionnaire of the European Foundation for Osteoporosis			
Units: arbitrary units			
arithmetic mean			
standard deviation	$\pm$	$\pm$	
Subjective estimation of medical condition (PDI)			
Subjective estimation of medical condition (Pain Disability Index)			
Units: arbitrary units			
arithmetic mean			
standard deviation	$\pm$	$\pm$	

## End points

### End points reporting groups

Reporting group title	Zoledronic acid
Reporting group description: Patients in this arm received zoledronic acid	
Reporting group title	Placebo
Reporting group description: Patients in this arm received placebo.	
Reporting group title	Zoledronic acid
Reporting group description: Patients in this arm received zoledronic acid.	
Reporting group title	Placebo
Reporting group description: Patients in this arm received placebo.	
Reporting group title	Zoledronic acid
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	
Subject analysis set title	Modified ITT   Zoledronic acid
Subject analysis set type	Modified intention-to-treat
Subject analysis set description: Modified ITT for analysis of primary endpoint (omitting outlier value of one patient with in placebo group [ $>500\%$ increase in edema volumen])).	
Subject analysis set title	Modified ITT   Placebo
Subject analysis set type	Modified intention-to-treat
Subject analysis set description: Modified ITT for analysis of primary endpoint (omitting outlier value of one patient with in placebo group [ $>500\%$ increase in edema volumen])).	

### Primary: Primary endpoint | Bone marrow edema volume

End point title	Primary endpoint   Bone marrow edema volume
End point description: The volume of the edema in $\text{cm}^3$ is defined as biometric data measured by the use of MRI before and six weeks after treatment. Edema volume at screening was set to 100% . Edema volume six weeks after study drug administration was provided as percentage reduction compared to the value at screening.	
End point type	Primary
End point timeframe: Bone marrow edema volume six weeks after administration of a single intravenous dose of zoledronic acid (5mg).	

End point values	Zoledronic acid	Placebo	Modified ITT   Zoledronic acid	Modified ITT   Placebo
Subject group type	Reporting group	Reporting group	Subject analysis set	Subject analysis set
Number of subjects analysed	34	14	34	13
Units: Percent change in volume				
arithmetic mean (standard deviation)	64.53 ( $\pm$ 41.92)	-14.43 ( $\pm$ 150.46)	64.53 ( $\pm$ 41.92)	23.97 ( $\pm$ 46.52)

## Statistical analyses

<b>Statistical analysis title</b>	Primary endpoint   T-test
Comparison groups	Zoledronic acid v Placebo
Number of subjects included in analysis	48
Analysis specification	Pre-specified
Analysis type	other <sup>[1]</sup>
P-value	= 0.074 <sup>[2]</sup>
Method	t-test, 2-sided
Variability estimate	Standard deviation

Notes:

[1] - T-test | Satterthwaite method

[2] - Results biased by outlier value of one patient in placebo group.

<b>Statistical analysis title</b>	Primary endpoint   Change in edema volumen (mITT)
Comparison groups	Modified ITT   Zoledronic acid v Modified ITT   Placebo
Number of subjects included in analysis	47
Analysis specification	Post-hoc
Analysis type	other <sup>[3]</sup>
P-value	= 0.006
Method	t-test, 2-sided

Notes:

[3] - T-test (with mITT, omitting outlier value of one patient in placebo group)

<b>Statistical analysis title</b>	Primary endpoint   Mann-Whitney-Test
Comparison groups	Zoledronic acid v Placebo
Number of subjects included in analysis	48
Analysis specification	Post-hoc
Analysis type	other <sup>[4]</sup>
P-value	= 0.007
Method	Wilcoxon (Mann-Whitney)

Notes:

[4] - Mann-Whitney-Test

<b>Statistical analysis title</b>	Primary endpoint   Mann-Whitney-Test (mITT)
Comparison groups	Modified ITT   Zoledronic acid v Modified ITT   Placebo
Number of subjects included in analysis	47
Analysis specification	Post-hoc
Analysis type	other <sup>[5]</sup>
P-value	= 0.015
Method	Wilcoxon (Mann-Whitney)

Notes:

[5] - Mann-Whitney-Test

**Secondary: Secondary endpoint | Reduction of pain (VAS) - Week 3**

End point title	Secondary endpoint   Reduction of pain (VAS) - Week 3
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End point description:

Reduction of pain as measured by a visual analog scale (VAS).

End point type	Secondary
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End point timeframe:

Assessment at week 3.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	25.5 (± 22.7)	25.6 (± 24.4)		

**Statistical analyses**

No statistical analyses for this end point

**Secondary: Secondary endpoint | Reduction of pain (VAS) - Week 6**

End point title	Secondary endpoint   Reduction of pain (VAS) - Week 6
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End point description:

Reduction of pain as measured by a visual analog scale (VAS).

End point type	Secondary
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End point timeframe:

Assessment at week 6.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	25.0 (± 28.7)	38.5 (± 30.2)		

**Statistical analyses**

No statistical analyses for this end point

**Secondary: Secondary endpoint | Qualeffo-41 - Week 3**

End point title	Secondary endpoint   Qualeffo-41 - Week 3
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End point description:

Quality of life as measured by the Qualeffo-41 questionnaire - Quality of life questionnaire of the

End point type	Secondary
End point timeframe:	
Assessment at week 3.	

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	2.1 ( $\pm$ 0.4)	2.1 ( $\pm$ 0.6)		

### Statistical analyses

No statistical analyses for this end point

#### Secondary: Secondary endpoint | Qualeffo-41 - Week 6

End point title	Secondary endpoint   Qualeffo-41 - Week 6
End point description:	
Quality of life as measured by the Qualeffo-41 questionnaire - Quality of life questionnaire of the European Foundation for Osteoporosis	
End point type	Secondary
End point timeframe:	
Assessment at week 6.	

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	2.0 ( $\pm$ 0.5)	2.1 ( $\pm$ 0.6)		

### Statistical analyses

No statistical analyses for this end point

#### Secondary: Secondary endpoint | Subjective estimation of medical condition (PDI) - Week 3

End point title	Secondary endpoint   Subjective estimation of medical condition (PDI) - Week 3
End point description:	
Subjective estimation of medical condition as assessed by PDI (Pain Disability Index).	
End point type	Secondary

End point timeframe:  
Assessment at week 3.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	14.8 (± 5.8)	20.5 (± 7.3)		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Subjective estimation of medical condition (PDI) - Week 6

End point title	Secondary endpoint   Subjective estimation of medical condition (PDI) - Week 6
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End point description:

Subjective estimation of medical condition as assessed by PDI.

End point type	Secondary
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End point timeframe:

Assessment at week 6.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: arbitrary units				
arithmetic mean (standard deviation)	13.1 (± 6.0)	18.8 (± 7.7)		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Number of additional medicinal visits - Week 3

End point title	Secondary endpoint   Number of additional medicinal visits - Week 3
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End point description:

Number of additional medicinal visits until week 6.

End point type	Secondary
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End point timeframe:

Assessment at week 3.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Patients with additional visits	1	0		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Number of additional medicinal visits - Week 6

End point title	Secondary endpoint   Number of additional medicinal visits - Week 6
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End point description:

Number of additional medicinal visits until week 6.

End point type	Secondary
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End point timeframe:

Assessment at week 6.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Patients with additional visits	0	0		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Number of days of illness - Week 3

End point title	Secondary endpoint   Number of days of illness - Week 3
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End point description:

Number of days of illness assessed until week 6.

End point type	Secondary
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End point timeframe:

Assessment at week 3.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Days				
arithmetic mean (standard deviation)	1.24 ( $\pm$ 5.02)	3.00 ( $\pm$ 7.63)		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Number of days of illness - Week 6

End point title	Secondary endpoint   Number of days of illness - Week 6
End point description:	Number of days of illness assessed until week 6.
End point type	Secondary
End point timeframe:	Assessment at week 6.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Days				
arithmetic mean (standard deviation)	0.94 ( $\pm$ 4.10)	3.14 ( $\pm$ 4.10)		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Number of aseptic bone necrosis and fatigue fractures

End point title	Secondary endpoint   Number of aseptic bone necrosis and fatigue fractures
End point description:	Assessemnt of number of patients with aseptic bone necrosis and/or fatigue fractures.
End point type	Secondary
End point timeframe:	Baseline until end of study (week 12).



End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Number of patients	0	0		

### Statistical analyses

No statistical analyses for this end point

### Secondary: Secondary endpoint | Changes of parameters concerning osteological values

End point title	Secondary endpoint   Changes of parameters concerning osteological values
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End point description:

Assessment of laboratory values related to osteological values (including serum calcium, serum phosphate, serum alkaline phosphatase, gamma-GT, serum creatinine, C-reactive protein, Thyroid stimulating hormone at week 3 and week 6.

End point type	Secondary
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End point timeframe:

Week 3 and week 6.

End point values	Zoledronic acid	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	14		
Units: Pts with clinical significant values (%)				
number (not applicable)				
Serum Calcium	0	0		
Serum Phosphate	0	0		
Serum Alkaline Phosphatase	0	0		
Gamma-GT	0	0		
Serum Creatinine	0	1		
C-reactive protein	0	0		

### Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Adverse events were recorded from time of enrollment until study completion (end of study).

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	19.0
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### Reporting groups

Reporting group title	Zoledronic acid
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Reporting group description:

Patients in this arm received zoledronic acid

Reporting group title	Placebo
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Reporting group description:

Patients in this arm received placebo.

Serious adverse events	Zoledronic acid	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	4 / 34 (11.76%)	1 / 14 (7.14%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Injury, poisoning and procedural complications			
Post-traumatic neck syndrome			
subjects affected / exposed	1 / 34 (2.94%)	0 / 14 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vascular disorders			
Hypertensive crisis			
subjects affected / exposed	1 / 34 (2.94%)	0 / 14 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Generalised tonic-clonic seizure			
subjects affected / exposed	0 / 34 (0.00%)	1 / 14 (7.14%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Paraesthesia			

subjects affected / exposed	1 / 34 (2.94%)	0 / 14 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
<b>Musculoskeletal and connective tissue disorders</b>			
Osteoarthritis			
subjects affected / exposed	1 / 34 (2.94%)	0 / 14 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
<b>Back pain</b>			
subjects affected / exposed	1 / 34 (2.94%)	0 / 14 (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: 3 %

<b>Non-serious adverse events</b>	Zoledronic acid	Placebo	
<b>Total subjects affected by non-serious adverse events</b>			
subjects affected / exposed	34 / 34 (100.00%)	11 / 14 (78.57%)	
<b>General disorders and administration site conditions</b>			
Asthenia			
subjects affected / exposed	2 / 34 (5.88%)	0 / 14 (0.00%)	
occurrences (all)	2	0	
Chills			
subjects affected / exposed	8 / 34 (23.53%)	2 / 14 (14.29%)	
occurrences (all)	8	2	
Fatigue			
subjects affected / exposed	10 / 34 (29.41%)	3 / 14 (21.43%)	
occurrences (all)	11	3	
Influenza like illness			
subjects affected / exposed	3 / 34 (8.82%)	2 / 14 (14.29%)	
occurrences (all)	3	3	
Malaise			
subjects affected / exposed	3 / 34 (8.82%)	0 / 14 (0.00%)	
occurrences (all)	3	0	

Pyrexia subjects affected / exposed occurrences (all)	7 / 34 (20.59%) 7	1 / 14 (7.14%) 1	
Immune system disorders Hypersensitivity subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 1	
Respiratory, thoracic and mediastinal disorders Oropharyngeal pain subjects affected / exposed occurrences (all)	2 / 34 (5.88%) 2	0 / 14 (0.00%) 0	
Investigations Blood creatinine increased subjects affected / exposed occurrences (all)  C-reactive protein increased subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0  2 / 34 (5.88%) 2	1 / 14 (7.14%) 1  0 / 14 (0.00%) 0	
Injury, poisoning and procedural complications Arthropod sting subjects affected / exposed occurrences (all)  Ligament sprain subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0  0 / 34 (0.00%) 0	1 / 14 (7.14%) 1  1 / 14 (7.14%) 1	
Nervous system disorders Headache subjects affected / exposed occurrences (all)  Sciatica subjects affected / exposed occurrences (all)	13 / 34 (38.24%) 14  1 / 34 (2.94%) 1	5 / 14 (35.71%) 6  1 / 14 (7.14%) 1	
Ear and labyrinth disorders Vertigo subjects affected / exposed occurrences (all)	2 / 34 (5.88%) 2	1 / 14 (7.14%) 1	
Eye disorders			

Blepharospasm subjects affected / exposed occurrences (all)	2 / 34 (5.88%) 2	0 / 14 (0.00%) 0	
Gastrointestinal disorders			
Diarrhoea subjects affected / exposed occurrences (all)	4 / 34 (11.76%) 4	0 / 14 (0.00%) 0	
Dry mouth subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 1	
Gastrointestinal disorder subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 2	
Nausea subjects affected / exposed occurrences (all)	2 / 34 (5.88%) 2	2 / 14 (14.29%) 2	
Skin and subcutaneous tissue disorders			
Hyperhidrosis subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 1	
Skin discolouration subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 1	
Renal and urinary disorders			
Renal pain subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	1 / 14 (7.14%) 1	
Musculoskeletal and connective tissue disorders			
Pain in extremity subjects affected / exposed occurrences (all)	11 / 34 (32.35%) 11	3 / 14 (21.43%) 4	
Arthralgia subjects affected / exposed occurrences (all)	3 / 34 (8.82%) 3	2 / 14 (14.29%) 2	
Back pain			

subjects affected / exposed	4 / 34 (11.76%)	0 / 14 (0.00%)	
occurrences (all)	4	0	
Bone pain			
subjects affected / exposed	2 / 34 (5.88%)	0 / 14 (0.00%)	
occurrences (all)	2	0	
Musculoskeletal discomfort			
subjects affected / exposed	2 / 34 (5.88%)	1 / 14 (7.14%)	
occurrences (all)	2	1	
Myalgia			
subjects affected / exposed	0 / 34 (0.00%)	3 / 14 (21.43%)	
occurrences (all)	0	3	
Osteoarthritis			
subjects affected / exposed	2 / 34 (5.88%)	1 / 14 (7.14%)	
occurrences (all)	2	2	
Rheumatic disorder			
subjects affected / exposed	2 / 34 (5.88%)	0 / 14 (0.00%)	
occurrences (all)	2	0	
Spinal pain			
subjects affected / exposed	2 / 34 (5.88%)	3 / 14 (21.43%)	
occurrences (all)	2	3	
Infections and infestations			
Cystitis			
subjects affected / exposed	0 / 34 (0.00%)	1 / 14 (7.14%)	
occurrences (all)	0	1	
Gastrointestinal infection			
subjects affected / exposed	0 / 34 (0.00%)	1 / 14 (7.14%)	
occurrences (all)	0	1	
Influenza			
subjects affected / exposed	1 / 34 (2.94%)	3 / 14 (21.43%)	
occurrences (all)	1	3	
Nasopharyngitis			
subjects affected / exposed	4 / 34 (11.76%)	2 / 14 (14.29%)	
occurrences (all)	4	2	
Tonsillitis			
subjects affected / exposed	0 / 34 (0.00%)	1 / 14 (7.14%)	
occurrences (all)	0	1	

Metabolism and nutrition disorders			
Hyperuricaemia			
subjects affected / exposed	0 / 34 (0.00%)	1 / 14 (7.14%)	
occurrences (all)	0	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

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

The originally intended primary analysis did not include outlier analysis. An outlier value in the placebo group (<500% increase in edema size) biased statistical results. Analysis was modified respecting outlier analysis.
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Notes: