Clinical trial results:
A Double-blind, Placebo-controlled, Randomized Study to Evaluate the Efficacy and Safety of KBP-042 in Patients with Type 2 Diabetes

Summary

EudraCT number	2017-001061-24
Trial protocol	DK CZ PL GB
Global end of trial date	09 July 2018

Results information

Result version number	v1 (current)
This version publication date	25 July 2019
First version publication date	25 July 2019

Trial information

Trial identification

Sponsor protocol code	KBP042/CD/003

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03230786
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	KeyBioscience AG
Sponsor organisation address	Spichermatt 30, Stans, Switzerland, 6370
Public contact	Regulatory Affairs and Safety Dpt. , Nordic Bioscience Clinical Development, regulatory@nordicbioscience.com
Scientific contact	Regulatory Affairs and Safety Dpt. , Nordic Bioscience Clinical Development, regulatory@nordicbioscience.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	31 July 2018
Is this the analysis of the primary completion data?	Yes
Primary completion date	09 July 2018
Global end of trial reached?	Yes
Global end of trial date	09 July 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The main objective of the trial is to evaluate the efficacy of three months of KBP-042 in Type 2 diabetic patients, in terms of glycaemic control.

Protection of trial subjects:

Safeguard the interests of the trial subjects by providing an independent review of safety data or recommendations relating to the medical management of study subjects.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 August 2017
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	United Kingdom: 20
Country: Number of subjects enrolled	Czech Republic: 50
Country: Number of subjects enrolled	Denmark: 57
Country: Number of subjects enrolled	Moldova, Republic of: 21
Country: Number of subjects enrolled	Poland: 34
Country: Number of subjects enrolled	Romania: 73
Worldwide total number of subjects	255
EEA total number of subjects	234

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)	177

From 65 to 84 years	78
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details: -

Pre-assignment period milestones

Number of subjects started	397[1]
Number of subjects completed	255

Pre-assignment subject non-completion reasons

Reason: Number of subjects	Screening failure: 142

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: A total of 397 subjects with T2DM were screened for the trial of which 255 subjects were found eligible.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	15 µg KBP-042

Arm description: -

Arm type	Experimental
Investigational medicinal product name	KBP-042
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

The IMP was self-injected in the morning by daily s.c. injections in the abdominal region.

Arm title	30 µg KBP-042

Arm description: -

Arm type	Experimental
Investigational medicinal product name	KBP-042
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

The IMP was self-injected in the morning by daily s.c. injections in the abdominal region.

Arm title	50 µg KBP-042

Arm description: -

Arm type	Experimental

Investigational medicinal product name	KBP-042
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

The IMP was self-injected in the morning by daily s.c. injections in the abdominal region.

Arm title	Placebo

Arm description: -

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

Dosage and administration details:

The placebo was a solution of 0.9% NaCl in water for s.c. injection. The placebo was self-injected in the morning by daily s.c. injections in the abdominal region.

Number of subjects in period 1	15 µg KBP-042	30 µg KBP-042	50 µg KBP-042
Started	63	65	63
Completed	59	60	54
Not completed	4	5	9
Consent withdrawn by subject	1	2	3
Physician decision	-	-	2
Adverse event, non-fatal	2	1	3
Pregnancy	-	-	-
Lost to follow-up	1	-	1
Protocol deviation	-	2	-

Number of subjects in period 1	Placebo
Started	64
Completed	59
Not completed	5
Consent withdrawn by subject	2
Physician decision	1
Adverse event, non-fatal	-
Pregnancy	1
Lost to follow-up	-
Protocol deviation	1

Baseline characteristics

Reporting groups	
Reporting group title	Overall trial

Reporting group description: -

Reporting group values	Overall trial	Total	
Number of subjects	255	255	
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)	166	166	
From 65-84 years	89	89	
85 years and over	0	0	
Gender categorical Units: Subjects			
Female	120	120	
Male	135	135	

End points

End points reporting groups

Reporting group title	15 µg KBP-042
Reporting group description: -	
Reporting group title	30 µg KBP-042
Reporting group description: -	
Reporting group title	50 µg KBP-042
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	
Subject analysis set title	Intention-to-treat population
Subject analysis set type	Modified intention-to-treat

Subject analysis set description:

The mITT analysis set was defined as all subjects from the ITT analysis set who had a baseline and at least one post-treatment HbA1c measurement.

Primary: Change from baseline in blood HbA1c at 12 weeks versus placebo

End point title	Change from baseline in blood HbA1c at 12 weeks versus placebo

End point description:

End point type	Primary

End point timeframe:

The blood HbA1c was performed at different time-points during the trial, from the screening visit, until week 12.

End point values	15 µg KBP-042	30 µg KBP-042	50 µg KBP-042	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	61	65	61	62
Units: mmol/mol				
least squares mean (confidence interval 95%)	-3.069 (-4.548 to -1.590)	-2.890 (-4.327 to -1.453)	-5.008 (-6.500 to -3.516)	-4.032 (-5.504 to -2.559)

Statistical analyses

Statistical analysis title	Primary efficacy analysis

Statistical analysis description:

The blood HbA1c was performed at different timepoints during the trial, from the screening visit, until week 12.

Comparison groups	30 µg KBP-042 v 50 µg KBP-042 v Placebo v 15 µg KBP-042

Number of subjects included in analysis	249
Analysis specification	Pre-specified
Analysis type	equivalence
P-value	= 0.1506
Method	Mixed models analysis

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Adverse events, including serious adverse events were evaluated and recorded at each clinical visit, from Visit 1 - at the time of consenting to participate in the trial, until the end of the post-treatment safety follow-up period.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	20.0

Reporting groups

Reporting group title	15 µg daily of KBP-042
Reporting group description: -	
Reporting group title	30 µg daily of KBP-042
Reporting group description: -	
Reporting group title	50 µg daily of KBP-042
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Serious adverse events	15 µg daily of KBP-042	30 µg daily of KBP-042	50 µg daily of KBP-042
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 79 (0.00%)	0 / 61 (0.00%)	3 / 50 (6.00%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Injury, poisoning and procedural complications			
Wound necrosis			
subjects affected / exposed	0 / 79 (0.00%)	0 / 61 (0.00%)	1 / 50 (2.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Atrial fibrillation			
subjects affected / exposed	0 / 79 (0.00%)	0 / 61 (0.00%)	1 / 50 (2.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Pneumonia			

subjects affected / exposed	0 / 79 (0.00%)	0 / 61 (0.00%)	0 / 50 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Wound infection			
subjects affected / exposed	0 / 79 (0.00%)	0 / 61 (0.00%)	1 / 50 (2.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Placebo		
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 63 (1.59%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		
Injury, poisoning and procedural complications			
Wound necrosis			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Cardiac disorders			
Atrial fibrillation			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Pneumonia			
subjects affected / exposed	1 / 63 (1.59%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Wound infection			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		

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

Non-serious adverse events	15 µg daily of KBP-042	30 µg daily of KBP-042	50 µg daily of KBP-042
Total subjects affected by non-serious adverse events			
subjects affected / exposed	54 / 79 (68.35%)	31 / 61 (50.82%)	31 / 50 (62.00%)
Vascular disorders			
Flushing			
subjects affected / exposed	7 / 79 (8.86%)	4 / 61 (6.56%)	1 / 50 (2.00%)
occurrences (all)	12	5	2
Nervous system disorders			
Dysgeusia			
subjects affected / exposed	1 / 79 (1.27%)	0 / 61 (0.00%)	3 / 50 (6.00%)
occurrences (all)	1	0	3
Headache			
subjects affected / exposed	4 / 79 (5.06%)	1 / 61 (1.64%)	1 / 50 (2.00%)
occurrences (all)	5	1	2
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	15 / 79 (18.99%)	6 / 61 (9.84%)	6 / 50 (12.00%)
occurrences (all)	20	8	13
Nausea			
subjects affected / exposed	9 / 79 (11.39%)	9 / 61 (14.75%)	8 / 50 (16.00%)
occurrences (all)	13	11	14
Vomiting			
subjects affected / exposed	5 / 79 (6.33%)	4 / 61 (6.56%)	4 / 50 (8.00%)
occurrences (all)	5	11	6
Skin and subcutaneous tissue disorders			
Erythema			
subjects affected / exposed	6 / 79 (7.59%)	0 / 61 (0.00%)	2 / 50 (4.00%)
occurrences (all)	20	0	2
Rash			
subjects affected / exposed	1 / 79 (1.27%)	1 / 61 (1.64%)	3 / 50 (6.00%)
occurrences (all)	1	1	4
Infections and infestations			
Viral upper respiratory tract infection			
subjects affected / exposed	6 / 79 (7.59%)	5 / 61 (8.20%)	7 / 50 (14.00%)
occurrences (all)	6	6	7
Bronchitis			

subjects affected / exposed	0 / 79 (0.00%)	1 / 61 (1.64%)	3 / 50 (6.00%)
occurrences (all)	0	1	3
Urinary tract infection			
subjects affected / exposed	0 / 79 (0.00%)	4 / 61 (6.56%)	1 / 50 (2.00%)
occurrences (all)	0	5	1
Viral infection			
subjects affected / exposed	2 / 79 (2.53%)	0 / 61 (0.00%)	4 / 50 (8.00%)
occurrences (all)	2	0	4
Metabolism and nutrition disorders			
Decreased appetite			
subjects affected / exposed	1 / 79 (1.27%)	3 / 61 (4.92%)	7 / 50 (14.00%)
occurrences (all)	1	3	7
Hyperlipidaemia			
subjects affected / exposed	5 / 79 (6.33%)	2 / 61 (3.28%)	1 / 50 (2.00%)
occurrences (all)	5	2	1

Non-serious adverse events	Placebo		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	33 / 63 (52.38%)		
Vascular disorders			
Flushing			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Nervous system disorders			
Dysgeusia			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Headache			
subjects affected / exposed	3 / 63 (4.76%)		
occurrences (all)	3		
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	5 / 63 (7.94%)		
occurrences (all)	5		
Nausea			
subjects affected / exposed	6 / 63 (9.52%)		
occurrences (all)	7		

Vomiting			
subjects affected / exposed	1 / 63 (1.59%)		
occurrences (all)	1		
Skin and subcutaneous tissue disorders			
Erythema			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Rash			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Infections and infestations			
Viral upper respiratory tract infection			
subjects affected / exposed	3 / 63 (4.76%)		
occurrences (all)	3		
Bronchitis			
subjects affected / exposed	2 / 63 (3.17%)		
occurrences (all)	2		
Urinary tract infection			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Viral infection			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Metabolism and nutrition disorders			
Decreased appetite			
subjects affected / exposed	0 / 63 (0.00%)		
occurrences (all)	0		
Hyperlipidaemia			
subjects affected / exposed	4 / 63 (6.35%)		
occurrences (all)	4		

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