Clinical trial results:
A Phase 3, Single-Administration, Open-label Trial to Assess the Efficacy, Safety, Pharmacokinetics, and Pharmacodynamics of Dasiglucagon When Administered as a Rescue Therapy for Severe Hypoglycemia in Pediatric Patients Below 6 Years of Age With Type 1 Diabetes (T1D)

Summary

EudraCT number	2025-000121-13
Trial protocol	Outside EU/EEA
Global end of trial date	03 December 2024

Results information

Result version number	v1 (current)
This version publication date	14 June 2025
First version publication date	14 June 2025

Trial information

Trial identification

Sponsor protocol code	ZP4207-21052

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT05378672
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Zealand Pharma A/S
Sponsor organisation address	CVR No. DK 2004 5078, Sydmarken 11, Søborg, Denmark, DK-2860
Public contact	Clinical Operations, Zealand Pharma A/S, +45 88 77 36 00, clinicaltrials@zealandpharma.com
Scientific contact	Clinical Operations, Zealand Pharma A/S, +45 88 77 36 00, clinicaltrials@zealandpharma.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMEA-002233-PIP01-17
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?	Yes

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	17 January 2025
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	03 December 2024
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess the efficacy of dasiglucagon injection in children less than (<) 6 years of age with T1D.

Protection of trial subjects:

The trial was conducted in accordance with the ethical principles set forth in the Declaration of Helsinki.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	09 May 2023
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 States: 8
Worldwide total number of subjects	8
EEA total number of subjects	0

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)	1
Children (2-11 years)	7
Adolescents (12-17 years)	0
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

This study was conducted at 2 centers in the United States.

Pre-assignment

Screening details:

A total 10 subjects were screened of which 2 were screen failures and 8 were enrolled to receive study treatment.

Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Non-randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Dasiglucagon 0.3 mg

Arm description:

Subjects received a single dose of 0.3 milligrams (mg) dasiglucagon subcutaneous (SC) injection on Day 1.

Arm type	Experimental
Investigational medicinal product name	Dasiglucagon
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Injection , Subcutaneous use

Dosage and administration details:

Dasiglucagon administered as SC injection.

Arm title	Dasiglucagon 0.6 mg

Arm description:

Subjects received a single dose of 0.6 mg dasiglucagon SC injection on Day 1.

Arm type	Experimental
Investigational medicinal product name	Dasiglucagon
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Injection , Subcutaneous use

Dosage and administration details:

Dasiglucagon administered as SC injection.

Number of subjects in period 1	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg
Started	4	4
Completed	4	4

Baseline characteristics

Reporting groups	
Reporting group title	Dasiglucagon 0.3 mg
Reporting group description:	
Subjects received a single dose of 0.3 milligrams (mg) dasiglucagon subcutaneous (SC) injection on Day 1.	
Reporting group title	Dasiglucagon 0.6 mg
Reporting group description:	
Subjects received a single dose of 0.6 mg dasiglucagon SC injection on Day 1.	

Reporting group values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg	Total
Number of subjects	4	4	8
Age categorical Units: Subjects			
Age continuous Units: years			
arithmetic mean	2.5	4.0	
standard deviation	± 1.00	± 0.82	-
Gender categorical Units: Subjects			
Female	3	1	4
Male	1	3	4
Ethnicity (NIH/OMB) Units: Subjects			
Hispanic or Latino	1	0	1
Not Hispanic or Latino	3	4	7
Race (NIH/OMB) Units: Subjects			
White	4	4	8

End points

End points reporting groups

Reporting group title	Dasiglucagon 0.3 mg
Reporting group description:	
Subjects received a single dose of 0.3 milligrams (mg) dasiglucagon subcutaneous (SC) injection on Day 1.	
Reporting group title	Dasiglucagon 0.6 mg
Reporting group description:	
Subjects received a single dose of 0.6 mg dasiglucagon SC injection on Day 1.	

Primary: Change From Baseline in Plasma Glucose Concentration at 30 Minutes After Investigational Medicinal Product (IMP) Injection

End point title	Change From Baseline in Plasma Glucose Concentration at 30 Minutes After Investigational Medicinal Product (IMP) Injection[1]
End point description:	
Glucose levels were monitored by continuous glucose monitoring and by a plasma glucose analyzer. Full analysis set (FAS) included all subjects of the safety analysis set (SAF). Here, "Number of Subjects Analyzed" signifies subjects who were evaluable for this endpoint.	
End point type	Primary
End point timeframe:	
Baseline, 30 minutes after dosing on Day 1	

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: Only descriptive data analysis was planned.

End point values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	3		
Units: milligrams per deciliter (mg/dL)				
arithmetic mean (standard deviation)	102.3 (± 10.72)	104.3 (± 14.47)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline in Plasma Glucose Concentration at 15 Minutes After IMP Injection

End point title	Change From Baseline in Plasma Glucose Concentration at 15 Minutes After IMP Injection
End point description:	
Glucose levels were monitored by continuous glucose monitoring and by a plasma glucose analyzer. FAS included all subjects of the SAF. Here, "Number of Subjects Analyzed" signifies subjects who were evaluable for this endpoint.	
End point type	Secondary

End point timeframe:

Baseline, 15 minutes after dosing on Day 1

End point values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	3		
Units: mg/dL				
arithmetic mean (standard deviation)	57.3 (± 13.84)	53.3 (± 4.04)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Subjects Who Received Rescue Intravenous (IV) Glucose Infusion Administration

End point title	Number of Subjects Who Received Rescue Intravenous (IV) Glucose Infusion Administration

End point description:

SAF included all subjects who were enrolled and received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

Within 30 minutes of infusion on Day 1

End point values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	4		
Units: subjects	0	0		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Subjects With Treatment-emergent Adverse Events (TEAEs)

End point title	Number of Subjects With Treatment-emergent Adverse Events (TEAEs)

End point description:

Treatment-emergence was defined as those adverse events (AEs) that occurred after dosing and those existing AEs that worsened during the study. An AE was any untoward medical occurrence in a clinical trial subject, temporally associated with the use of trial intervention, whether or not considered related to the trial intervention. An AE can therefore be any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease (new or exacerbated) temporally associated with the trial intervention. SAF included all subjects who were enrolled and received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

From first dose of study drug up to end of follow up (up to Day 29)

End point values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	4		
Units: subjects	3	4		

Statistical analyses

No statistical analyses for this end point

Secondary: Time to First IV Glucose Infusion Following Treatment With Dasiglucagon

End point title	Time to First IV Glucose Infusion Following Treatment With Dasiglucagon

End point description:

Time to first IV glucose infusion (minutes) was defined as Time of start of first glucose administration - Time of administration of study medication. SAF included all subjects who were enrolled and received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

Start of first glucose administration up to 30 minutes post-infusion on Day 1

End point values	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[2]	0[3]		
Units: minutes				
number (not applicable)				

Notes:

[2] - Here, "Number of Subjects Analyzed" is '0' because no subjects received glucose infusion.

[3] - Here, "Number of Subjects Analyzed" is '0' because no subjects received glucose infusion.

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: From first dose of study drug up to end of follow up (up to Day 29)	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	24.1

Reporting groups	
Reporting group title	Dasiglucagon 0.3 mg
Reporting group description: Subjects received a single dose of 0.3 mg dasiglucagon SC injection on Day 1.	
Reporting group title	Dasiglucagon 0.6 mg
Reporting group description: Subjects received a single dose of 0.6 mg dasiglucagon SC injection on Day 1.	

Serious adverse events	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 4 (0.00%)	1 / 4 (25.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Metabolism and nutrition disorders			
Diabetic ketoacidosis			
subjects affected / exposed	0 / 4 (0.00%)	1 / 4 (25.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Dasiglucagon 0.3 mg	Dasiglucagon 0.6 mg	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	3 / 4 (75.00%)	3 / 4 (75.00%)	
Injury, poisoning and procedural complications			
Face injury			
subjects affected / exposed	1 / 4 (25.00%)	0 / 4 (0.00%)	
occurrences (all)	1	0	
Blood and lymphatic system disorders			

Lymphadenopathy			
subjects affected / exposed	0 / 4 (0.00%)	2 / 4 (50.00%)	
occurrences (all)	0	2	
General disorders and administration site conditions			
Application site rash			
subjects affected / exposed	0 / 4 (0.00%)	1 / 4 (25.00%)	
occurrences (all)	0	1	
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	0 / 4 (0.00%)	1 / 4 (25.00%)	
occurrences (all)	0	1	
Vomiting			
subjects affected / exposed	1 / 4 (25.00%)	2 / 4 (50.00%)	
occurrences (all)	1	3	
Infections and infestations			
Gastroenteritis			
subjects affected / exposed	1 / 4 (25.00%)	0 / 4 (0.00%)	
occurrences (all)	1	0	
Hand-foot-and-mouth disease			
subjects affected / exposed	1 / 4 (25.00%)	0 / 4 (0.00%)	
occurrences (all)	1	0	
Metabolism and nutrition disorders			
Hyperglycaemia			
subjects affected / exposed	3 / 4 (75.00%)	1 / 4 (25.00%)	
occurrences (all)	4	1	
Hypoglycaemia			
subjects affected / exposed	1 / 4 (25.00%)	0 / 4 (0.00%)	
occurrences (all)	1	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
14 October 2022	Protocol V.2.0: -Synopsis, 6.1 Trial Interventions Administered: Injection site was changed from abdomen to buttocks. -10.1.4 Data Protection text was changed.
12 December 2022	Protocol V.3.0 -Added 0.6 mg Dasiglucagon for children with T1D in the age range >=2 and <6 years and of 0.3 mg Dasiglucagon for children with T1D below 2 years of age. -Updated trial population and references. -Blood volume updated to reflect changes in blood volume needed for the individual samples and for children over a range of body weights. - Added texts to allow sharing of relevant medical records which might be examined by Clinical Quality Assurance auditors or other authorized personnel appointed by the sponsor, including relevant partners, by appropriate IRB/IEC members, and by inspectors from regulatory authorities.
09 March 2023	Protocol V.4.0: -Updated texts to support approval of the 0.3 mg dose and expanded indication down to birth. -Added new inclusion criteria for body weight. -Added texts to allow for some flexibility for the sites to select a solution that is the least stressful for the children. -Blood volumes (table 6-3) updated to ensure more flexibility in case of potential challenges with supply of the tubes with the desired volume.
01 November 2023	Protocol V.5.0: -Updated texts to broaden the recruitment for the study.
12 July 2024	Protocol V.6.0: -Updated texts to allow for more flexibility in recruiting children eligible for 0.3 mg dose by removing upper limit for body weight of 15 kg.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported