



## Clinical trial results:

### An Open-Label Phase II Study in anti-GBM disease (Goodpasture's disease) with Adverse Renal Prognosis to Evaluate the Efficacy and Safety of IdeS --GOOD-IDES

#### Summary

EudraCT number	2016-004082-39
Trial protocol	SE DK AT FR
Global end of trial date	24 July 2020

#### Results information

Result version number	v1 (current)
This version publication date	11 January 2022
First version publication date	11 January 2022

#### Trial information

##### Trial identification

Sponsor protocol code	GOOD-IDES-01
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##### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03157037
WHO universal trial number (UTN)	-

Notes:

#### Sponsors

Sponsor organisation name	Linköping University
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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:

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## Results analysis stage

Analysis stage	Final
Date of interim/final analysis	23 November 2021
Is this the analysis of the primary completion data?	Yes
Primary completion date	24 July 2020
Global end of trial reached?	Yes
Global end of trial date	24 July 2020
Was the trial ended prematurely?	No

Notes:

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## General information about the trial

Main objective of the trial:

The primary efficacy objective is to evaluate the efficacy of an IdeS based regimen to salvage independent renal function defined as no need for dialysis at 6 months and after IdeS treatment.

Protection of trial subjects:

Details of the goals of the research and the risk and benefits of the protocol were reviewed with each potential study subject.

In the event of adverse effects from the study, full resources of the hospital were available to intervene as medically necessary.

Licensed physicians expert in the care of patients with vasculitis were available at all times at each study site.

To mitigate the risk of infections all patients received antibiotic prophylaxis.

Prophylactic medication against *Pneumocystis jirovecii* pneumonia (PCP) was strongly recommended.

Before administration of imlifidase all patients received solu-medrol and loratadine (or equivalent).

All patients received glucocorticoids as part of standard-of-care. Prophylaxis against peptic ulcers and osteoporosis was given at the discretion of the investigator.

All patients were treated with cyclophosphamide and were therefore monitored for full blood counts according to local practice with a minimum schedule recommended in the study protocol.

Background therapy:

All patients received standard-of-care consisting of plasma exchange (PLEX), glucocorticoids (GC) and cyclophosphamide (CYC), as detailed below:

PLEX: Administered according to local practice, and given at a dose considered necessary to keep anti-GBM antibodies below a toxic level. A standard session usually consisted of 60 ml/kg (based on actual body weight) using albumin (3-5% with or without crystalloid) as a replacement solution. More than 36 hours had to pass after administration of imlifidase before PLEX could be initiated. More than 15 hours following an IV dose of CYC had to pass before PLEX could be given and more than 12 hours if CYC was administered orally. On days when PLEX was given CYC was given after completed PLEX.

GC: Commenced with IV methylprednisolone as 3 daily pulse doses. Each pulse was between 0.5 g and 1 g at the discretion of the investigator. Any dose given to the patient prior to study inclusion was subtracted from the total dose. Additional pulses of methyl prednisolone were allowed to curb resistant pulmonary haemorrhage. Oral GC therapy with prednisolone (dosing according to local practice) was initiated after stopping methylprednisolone. Oral GC was given as a single daily dose. An equivalent daily IV dose applied for patients intolerant to oral GC or if oral GC was contraindicated.

CYC: Induction therapy with CYC was prescribed for at least 13 weeks in patients with independent renal function, but could be withdrawn earlier in patients considered to have reached end-stage renal disease. The study protocol allowed the use of either IV or oral CYC. Concomitant use of mesna was optional and at the discretion of the investigator.

Evidence for comparator:

N/A

Actual start date of recruitment	16 June 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	Sweden: 4
Country: Number of subjects enrolled	Austria: 2
Country: Number of subjects enrolled	Czechia: 1
Country: Number of subjects enrolled	Denmark: 3
Country: Number of subjects enrolled	France: 5
Worldwide total number of subjects	15
EEA total number of subjects	15

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)	8
From 65 to 84 years	7
85 years and over	0

## Subject disposition

### Recruitment

Recruitment details:

Patients were recruited between 16-Jun-2017 and 22-Jan-2020.

### Pre-assignment

Screening details:

A total of 26 patients were screened and 15 were enrolled in the study. Five patients were not eligible due to an eGFR above 15 mL/min/1.73 m<sup>2</sup> and another 6 patients were excluded based on one or more exclusion criteria.

### Period 1

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

Blinding implementation details:

N/A

### Arms

Arm title	All patients
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Arm description:

All 15 patients (i.e., both patients who were dialysis dependent and patients who were dialysis independent at baseline)

Arm type	Experimental
Investigational medicinal product name	Imlifidase
Investigational medicinal product code	
Other name	IdeS, IgG endopeptidase
Pharmaceutical forms	Concentrate for solution for infusion, Powder for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

After dilution imlifidase was administered as an IV infusion over 30 minutes using a syringe or an infusion bag, an infusion pump and a particle filter.

All patients received a dose of 0.25 mg/kg.

The protocol allowed slowing down or stopping and restarting the infusion if required.

<b>Number of subjects in period 1</b>	All patients
Started	15
Completed	14
Not completed	1
Adverse event, serious fatal	1

## Baseline characteristics

### Reporting groups

Reporting group title	Overall trial
Reporting group description: -	

Reporting group values	Overall trial	Total	
Number of subjects	15	15	
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)	8	8	
From 65-84 years	7	7	
85 years and over	0	0	
Age continuous			
Units: years			
arithmetic mean	61		
full range (min-max)	19 to 77	-	
Gender categorical			
Units: Subjects			
Female	6	6	
Male	9	9	
Dialysis status			
Units: Subjects			
Dialysis	10	10	
Not on dialysis but eGFR <15ml/min/1.73m2	5	5	
Occurrence of pulmonary symptoms			
Units: Subjects			
Yes	9	9	
No	3	3	
Not reported	3	3	
Double positive for Anti-GBM antibodies and ANCA			
Units: Subjects			
Yes	6	6	
No	9	9	
Time since anti-GBM diagnosis			
Units: Days			
median	2		
full range (min-max)	0 to 40	-	
Anti-GBM concentration			
Units: U/mL			

median full range (min-max)	130.0 2 to 1090	-	
Time since first renal symptom Units: Days median full range (min-max)	10 4 to 76	-	
Time since first pulmonary symptom Units: Days median full range (min-max)	32 1 to 113	-	

## End points

### End points reporting groups

Reporting group title	All patients
Reporting group description: All 15 patients (i.e., both patients who were dialysis dependent and patients who were dialysis independent at baseline)	
Subject analysis set title	Dialysis Dependent Patients at Baseline
Subject analysis set type	Sub-group analysis
Subject analysis set description: Subgroup of all patients who were on dialysis at baseline	
Subject analysis set title	Dialysis Independent Patients at Baseline
Subject analysis set type	Sub-group analysis
Subject analysis set description: Subgroup of all patients who were not on dialysis at baseline	

### Primary: Proportion of Patients with Independent Renal Function at 6 Months

End point title	Proportion of Patients with Independent Renal Function at 6 Months <sup>[1]</sup>
End point description: Number of patients without need for dialysis at 6 months. A patient with independent renal function is defined as a patient without need for dialysis.	
End point type	Primary
End point timeframe: 6 months after imlifidase administration	
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: No statistical analysis was specified. This study is a single arm study.	

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	15	10	5	
Units: Patients	10	5	5	

### Statistical analyses

No statistical analyses for this end point

### Secondary: Proportion of Patients with Independent Renal Function at 3 Months

End point title	Proportion of Patients with Independent Renal Function at 3 Months
End point description: Number of patients without need for dialysis at 3 months. A patient with independent renal function is defined as a patient without need for dialysis.	

End point type	Secondary
End point timeframe:	
3 months after imlifidase administration	

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	15	10	5	
Units: Patients	9	4	5	

### Statistical analyses

No statistical analyses for this end point

### Secondary: Renal Function at 3 Months as Measured by eGFR

End point title	Renal Function at 3 Months as Measured by eGFR
End point description:	
eGFR is a measure of kidney function. eGFR has been calculated based on p-creatinine according to the modification of diet in renal disease (MDRD) equation. eGFR for a kidney with normal function is above 90 mL/min/1.73m <sup>2</sup> . Reduced kidney function is characterised by a decreased eGFR value.	
End point type	Secondary
End point timeframe:	
3 months after imlifidase administration	

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	7	3	4	
Units: mL/min/1.73m <sup>2</sup>				
arithmetic mean (standard deviation)	23.8 (± 8.9)	20.3 (± 4.7)	26.5 (± 11.0)	

### Statistical analyses

No statistical analyses for this end point

### Secondary: Renal Function at 6 Months as Measured by eGFR

End point title	Renal Function at 6 Months as Measured by eGFR
End point description:	
eGFR is a measure of kidney function. eGFR has been calculated based on p-creatinine according to the modification of diet in renal disease (MDRD) equation. eGFR for a kidney with normal function is above	



90 mL/min/1.73m<sup>2</sup>. Reduced kidney function is characterised by a decreased eGFR value.

End point type	Secondary
End point timeframe:	
6 months after imlifidase administration	

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	10	5	5	
Units: mL/min/1.73m <sup>2</sup>				
arithmetic mean (standard deviation)	30.9 (± 13.9)	24.8 (± 6.6)	36.9 (± 17.3)	

## Statistical analyses

No statistical analyses for this end point

## Secondary: Change in Renal Function over Time as Measured by eGFR

End point title	Change in Renal Function over Time as Measured by eGFR
End point description:	
eGFR is a measure of kidney function. eGFR has been calculated based on p-creatinine according to the modification of diet in renal disease (MDRD) equation. Reduced kidney function is characterised by a decreased eGFR value. A positive change in eGFR from baseline indicates improved renal function.	
End point type	Secondary
End point timeframe:	
Pre-implifidase up to 6 months	

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	10 <sup>[2]</sup>	5 <sup>[3]</sup>	5 <sup>[4]</sup>	
Units: Patients				
Pre-implifidase eGFR=0-15	6	1	5	
Pre-implifidase eGFR=15-30	0	0	0	
Pre-implifidase eGFR=30-60	0	0	0	
Pre-implifidase eGFR ≥60	0	0	0	
1 month eGFR=0-15	2	1	1	
1 month eGFR=15-30	3	1	2	
1 month eGFR=30-60	2	0	2	
1 month eGFR ≥60	0	0	0	
3 month eGFR=0-15	0	0	0	
3 month eGFR=15-30	6	3	3	
3 month eGFR=30-60	1	0	1	

3 month eGFR $\geq$ 60	0	0	0	
6 month eGFR=0-15	0	0	0	
6 month eGFR=15-30	6	4	2	
6 month eGFR=30-60	4	1	3	
6 month eGFR $\geq$ 60	0	0	0	

Notes:

[2] - Pre-implifidase: 6 patients

1 month: 7 patients

3 months: 7 patients

6 months: 10 patients

[3] - Pre-implifidase: 1 patients

1 month: 2 patients

3 months: 3 patients

6 months: 5 patients

[4] - Pre-implifidase: 5 patients

1 month: 5 patients

3 months: 4 patients

6 months: 5 patients

## Statistical analyses

No statistical analyses for this end point

## Secondary: Number of Study Visits with Anti-GBM Antibodies Above a Toxic Level

End point title	Number of Study Visits with Anti-GBM Antibodies Above a Toxic Level
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End point description:

Very few patients had anti-GBM antibodies >20 U/mL on the assessment timepoints following imlifidase. PLEX was performed at any time throughout the study when the Investigator judged it necessary, without requirement of recording the anti-GBM antibody level prior to initiation. Hence it was not possible to analyse number of patient days with an anti-GBM level >20 U/mL as was the original plan. Instead number of study visits with a toxic level after imlifidase treatment are presented.

End point type	Secondary
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End point timeframe:

Pre-implifidase up to 6 months after imlifidase administration

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	15	10	5	
Units: Patients				
0 visits	2	1	1	
1 visit	7	3	4	
2 visits	1	1	0	
3 visits	1	1	0	
5 visits	2	2	0	
6 visits	1	1	0	
9 visits	1	1	0	

## Statistical analyses

No statistical analyses for this end point

### Secondary: Haematuria (Blood in urine)

End point title	Haematuria (Blood in urine)
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End point description:

Haematuria was assessed using urine dipstick. The result was presented as: Negative/Trace/+1/+2/+3/+4. In the analysis results being +2 or above are considered as relevant. Haematuria was an inclusion criterion. All 15 patients had haematuria when included in the study.

End point type	Secondary
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End point timeframe:

At 6 months after imlifidase administration

End point values	All patients			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: Positive				
number (not applicable)				
Day 180	3			

## Statistical analyses

No statistical analyses for this end point

### Secondary: Change in Proteinuria During the Study

End point title	Change in Proteinuria During the Study
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End point description:

Change in proteinuria measured as u-albumin/creatinine (g/mol) in morning void during the study .

End point type	Secondary
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End point timeframe:

Up to 6 months after imlifidase administration

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	14 <sup>[5]</sup>	9 <sup>[6]</sup>	5 <sup>[7]</sup>	
Units: g/mol				
arithmetic mean (standard deviation)				
Pre-implifidase	700 (± 1197)	1117 (± 1544)	199 (± 166)	
3 Months	190 (± 178)	220 (± 197)	153 (± 172)	
6 Months	161 (± 198)	183 (± 231)	122 (± 133)	

Notes:

[5] - Pre-implifidase: 11 patients  
3 Months: 9 patients  
6 Months: 14 patients  
[6] - Pre-implifidase: 6 patients  
3 Months: 5 patients  
6 Months: 9 patients  
[7] - Pre-implifidase: 5 patients  
3 Months: 4 patients  
6 Months: 5 patients

## Statistical analyses

No statistical analyses for this end point

## Secondary: Number of PLEXs Needed over Time

End point title	Number of PLEXs Needed over Time
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End point description:

Number of PLEXs needed before anti-GBM antibodies are below toxic levels. PLEX was initiated at the discretion of the investigator throughout the study.

End point type	Secondary
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End point timeframe:

Before implifidase was administered and up to 3 months after implifidase was administered

End point values	All patients	Dialysis Dependent Patients at Baseline	Dialysis Independent Patients at Baseline	
Subject group type	Reporting group	Subject analysis set	Subject analysis set	
Number of subjects analysed	15	10	5	
Units: Number of PLEX sessions				
Pre-Screening	33	10	23	
Post-Screening to Pre-implifidase	5	5	0	
Pre-implifidase to Day 3	1	0	1	
Day 3 to Day 7	8	8	0	
Day 7 to Day 10	14	14	0	
Day 10 to Day 15	22	20	2	
Day 15 to Day 22	23	18	5	
Day 22 to Day 29	6	5	1	
Day 29 to Day 50	8	5	3	
Day 50 to 3 Months	1	0	1	
Total (Post-implifidase to 3 Months)	83	70	13	
Total (Pre-Screening to 3 Months)	121	85	36	

## Statistical analyses

No statistical analyses for this end point

## Secondary: Pharmacokinetics of Implifidase (AUC, Cmax, CL, Vz)

End point title	Pharmacokinetics of Imlifidase (AUC, Cmax, CL, Vz)
End point description:	
AUC=Area under the plasma concentration of imlifidase versus time curve	
Cmax=Maximum observed plasma concentration of imlifidase following dosing	
CL=Clearance is a measure of the ability of the body to clear imlifidase from plasma	
Vz=Volume of distribution of imlifidase during the elimination phase	
End point type	Secondary
End point timeframe:	
Pre-implifidase to Day 14 after administration	

<b>End point values</b>	All patients			
Subject group type	Reporting group			
Number of subjects analysed	15			
Units: See below				
geometric mean (full range (min-max))				
AUC (h x microgram/mL)	158 (73 to 304)			
Cmax (microgram/mL)	4.7 (2.6 to 8.0)			
CL (mL/h/kg)	1.6 (0.8 to 3.4)			
Vz (L/kg)	0.13 (0.07 to 0.21)			

## Statistical analyses

No statistical analyses for this end point

## Secondary: Pharmacokinetics of Imlifidase (t1/2)

End point title	Pharmacokinetics of Imlifidase (t1/2)
End point description:	
The half-life is the time it takes for the concentration of the drug to be reduced by 50%.	
Half-life during distribution phase (Alpha-t1/2) Half-life during elimination phase (Beta-t1/2).	
End point type	Secondary
End point timeframe:	
Pre-dose to Day 14 after administration of imlifidase	

<b>End point values</b>	All patients			
Subject group type	Reporting group			
Number of subjects analysed	15 <sup>[8]</sup>			
Units: hours				
arithmetic mean (full range (min-max))				
Alpha-t1/2	2.6 (0.9 to 7.5)			
Beta-t1/2	53 (26 to 115)			

Notes:

[8] - The results refers to harmonic mean. Arithmetic was used since harmonic was not a selectable option.

## Statistical analyses

No statistical analyses for this end point

## Secondary: Pharmacodynamics (IgG Degradation)

End point title	Pharmacodynamics (IgG Degradation)
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End point description:

Imlifidase specifically cleaves all subclasses of human IgG rapidly and efficiently. The cleaving process involves two steps: (i) intact IgG to single cleaved IgG followed by (ii) single cleaved IgG to completely cleaved IgG (one F(ab')<sub>2</sub>- and one homodimeric Fc-fragment) The electroluminescence analysis method used measures the sum of intact and single cleaved IgG in serum. The efficacy of imlifidase is evaluated as remaining concentration of intact and single cleaved IgG in serum after treatment.

End point type	Secondary
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End point timeframe:

Pre-implifidase up to 6 months after imlifidase administration

End point values	All patients			
Subject group type	Reporting group			
Number of subjects analysed	15 <sup>[9]</sup>			
Units: mg/mL				
arithmetic mean (standard deviation)				
Pre-implifidase	6.66 (± 2.94)			
2 hours	0.17 (± 0.12)			
6 hours	0.08 (± 0.05)			
24 hours	0.08 (± 0.05)			
Day 3	0.09 (± 0.05)			
Day 7	0.85 (± 1.56)			
Day 10	1.58 (± 1.69)			
Day 15	2.64 (± 2.42)			
Day 22	2.94 (± 2.34)			
Day 29	3.94 (± 2.18)			
Day 50	4.29 (± 2.05)			
6 Months	6.76 (± 2.49)			

Notes:

[9] - 15 patients at all time points except for 24h, Day 50 and 6 months when 14 patients were analysed

## Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-implifidase Antibodies

End point title	Anti-implifidase Antibodies
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End point description:	
Concentration of anti-implifidase antibodies	
End point type	Secondary
End point timeframe:	
Pre-implifidase up to 6 months following implifidase administration	

End point values	All patients			
Subject group type	Reporting group			
Number of subjects analysed	15 <sup>[10]</sup>			
Units: mg/L				
arithmetic mean (standard deviation)				
Pre-implifidase	9.00 (± 4.17)			
Day 7	4.32 (± 5.29)			
Day 15	752 (± 728)			
Day 22	744 (± 736)			
Day 29	609 (± 493)			
Day 50	547 (± 580)			
3 Months	327 (± 263)			
6 Months	242 (± 280)			

Notes:

[10] - Pre-implifidase, D7, D15, D22, D29: 15 patients

D50 and 6 Months: 14 patients

3 Months: 12 patients

## Statistical analyses

No statistical analyses for this end point

## Secondary: Renal Histology

End point title	Renal Histology
End point description:	
Kidney biopsies classified according to Berden et al. 2010 (focal, crescentic, mixed and sclerotic) and provide information on the histological activity and kidney outcome. Focal class is associated with favourable kidney outcome, whereas sclerotic carries a poor outcome. Crescentic/mixed class could have an intermediate outcome between focal and sclerotic. Immunofluorescence performed at the local hospitals was also used to assess linear IgG deposits which is a hallmark of anti-GBM antibody disease.	
End point type	Secondary
End point timeframe:	
Before administration of implifidase (0-33 days) and after administration of implifidase (3-6 days)	

End point values	All patients			
Subject group type	Reporting group			
Number of subjects analysed	10 <sup>[11]</sup>			
Units: Biopsies				
Crescentic	9			
Mixed	4			
Sclerotic	1			

Linear IgG deposits	11			
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Notes:

[11] - 14 biopsies from 10 patients were analysed.  
10 biopsies were collected pre-implifidase and 4 after.

## Statistical analyses

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No statistical analyses for this end point



## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Adverse events (AEs) were collected for 6 months (i.e., from the timepoint the patient signed the informed consent form (ICF) until end of study.

Adverse event reporting additional description:

AEs were obtained if spontaneously reported by the patient, if reported in response to an open question from the study personnel, or if revealed by observation.

A TEAE is any AE occurring after imlifidase and within the time of the residual drug effect period i.e. 28 days.

All SAEs were post-TEAEs.

The listed non-serious AEs presents TEAEs only.

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	23.1
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### Reporting groups

Reporting group title	Safety Analysis Set
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Reporting group description:

All patients who have received imlifidase.

Serious adverse events	Safety Analysis Set		
Total subjects affected by serious adverse events			
subjects affected / exposed	5 / 15 (33.33%)		
number of deaths (all causes)	1		
number of deaths resulting from adverse events	1		
Cardiac disorders			
Cardiac failure			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Gastrointestinal disorders			
Diarrhoea			

subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Vomiting			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Musculoskeletal and connective tissue disorders			
Back pain			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Pneumonia			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 1		
Viral infection			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Metabolism and nutrition disorders			
Dehydration			
subjects affected / exposed	1 / 15 (6.67%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		

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

<b>Non-serious adverse events</b>	Safety Analysis Set		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	13 / 15 (86.67%)		
Vascular disorders			

Hypertension subjects affected / exposed occurrences (all)	2 / 15 (13.33%) 2		
Pelvic venous thrombosis subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Thrombophlebitis subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
General disorders and administration site conditions Fatigue subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Immune system disorders Cryoglobulinaemia subjects affected / exposed occurrences (all)  Hypogammaglobulinaemia subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1  1 / 15 (6.67%) 1		
Respiratory, thoracic and mediastinal disorders Bronchial obstruction subjects affected / exposed occurrences (all)  Dyspnoea subjects affected / exposed occurrences (all)  Sinus pain subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1  1 / 15 (6.67%) 1  1 / 15 (6.67%) 1		
Investigations Blood iron decreased subjects affected / exposed occurrences (all)  Red blood cell count decreased	1 / 15 (6.67%) 1		

subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Nervous system disorders Cognitive disorder subjects affected / exposed occurrences (all)  Dizziness subjects affected / exposed occurrences (all)  Headache subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1  1 / 15 (6.67%) 1  1 / 15 (6.67%) 1		
Blood and lymphatic system disorders Anaemia subjects affected / exposed occurrences (all)	6 / 15 (40.00%) 6		
Ear and labyrinth disorders Tinnitus subjects affected / exposed occurrences (all)	2 / 15 (13.33%) 2		
Eye disorders Foreign body sensation in eyes subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Gastrointestinal disorders Diarrhoea subjects affected / exposed occurrences (all)  Nausea subjects affected / exposed occurrences (all)  Vomiting subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1  4 / 15 (26.67%) 4  2 / 15 (13.33%) 2		
Skin and subcutaneous tissue disorders Ecchymosis			

<p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Hyperhidrosis</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Rash erythematous</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Urticaria</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p>		
<p>Renal and urinary disorders</p> <p>Haematuria</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>1 / 15 (6.67%)</p> <p>1</p>		
<p>Musculoskeletal and connective tissue disorders</p> <p>Arthralgia</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Muscle spasms</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p>		
<p>Infections and infestations</p> <p>Clostridium difficile infection</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Herpes zoster</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Pneumonia klebsiella</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Urinary tract infection</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p> <p>1 / 15 (6.67%)</p> <p>1</p>		
<p>Metabolism and nutrition disorders</p>			

Decreased appetite subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Hyperglycaemia subjects affected / exposed occurrences (all)	2 / 15 (13.33%) 2		
Hyperphosphataemia subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 1		
Steroid diabetes subjects affected / exposed occurrences (all)	1 / 15 (6.67%) 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.

N/A
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Notes:

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### Online references

<http://www.ncbi.nlm.nih.gov/pubmed/31563334>