



Clinical trial results:

A Phase 2, Randomized, Double-Blind, Placebo-Controlled Trial of IMO-8400 in Patients with Dermatomyositis

Summary

EudraCT number	2015-003277-15
Trial protocol	GB HU SE
Global end of trial date	04 April 2018

Results information

Result version number	v1 (current)
This version publication date	13 December 2021
First version publication date	13 December 2021

Trial information

Trial identification

Sponsor protocol code	8400-211
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02612857
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Idera Pharmaceuticals, Inc.
Sponsor organisation address	505 Eagleview Blvd., Suite 212, Exton, United States, PA 19341
Public contact	Clinical Trials Mailbox, Idera Pharmaceuticals, Inc., +1 617 679-5500, clinicaltrials@iderapharma.com
Scientific contact	Clinical Trials Mailbox, Idera Pharmaceuticals, Inc., +1 617 679-5500, clinicaltrials@iderapharma.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	04 April 2018
Is this the analysis of the primary completion data?	Yes
Primary completion date	04 April 2018
Global end of trial reached?	Yes
Global end of trial date	04 April 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The main objectives were:

- To assess the safety and tolerability of IMO-8400 in adult patients with dermatomyositis (DM) with active skin and muscle disease
- To assess the effect of IMO-8400 on the cutaneous manifestations of DM

Protection of trial subjects:

A data monitoring committee (DMC), operating autonomously from Idera, was responsible for providing independent recommendations to Idera about evolving risk-benefit observed in the course of the study and any protocol modifications required during the course of the study. The DMC was to comprise at least 1 physician experienced in treating DM, and an immunologist and a biostatistician.

Background therapy:

Investigators could prescribe concomitant medications or treatments deemed necessary to provide adequate supportive care. The following therapies were permitted as concomitant medications:

- Corticosteroids
- Non-steroidal immunomodulatory medications - no more than 1 of the following: IVIG, mycophenolate mofetil, cyclophosphamide, cyclosporine, leflunomide, tacrolimus, methotrexate, azathioprine
- Topical corticosteroids for use on the scalp only

For patients who were on corticosteroids or non-steroidal immunomodulatory medications, a stable regimen should have been established prior to Screening and maintained during the 24 weeks of study drug treatment. Adjustments in dosage for increases in body weight were permitted but were not mandatory.

If a patient had been on more than one non-steroidal immunomodulatory medication, they had to have stopped administration of the additional non-steroidal immunomodulatory medications for at least the washout period defined in the protocol.

Evidence for comparator:

The only comparator was a matching placebo in this double-blind trial.

Actual start date of recruitment	03 December 2015
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: 24
Country: Number of subjects enrolled	Hungary: 5
Country: Number of subjects enrolled	United Kingdom: 1
Worldwide total number of subjects	30
EEA total number of subjects	5

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)	24
From 65 to 84 years	6
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Patients aged 18 to 75 years with definite or probable DM (Bohan and Peter criteria; 1975) or had all definite or probable criteria except heliotrope rash and Gottron's signs/papules if they had 1 or more of the following: documented DM autoantibodies or classic DM associated skin change.

Pre-assignment

Screening details:

Screening evaluations were to be completed within 28 days prior to administering the first dose of study drug. A total of 34 patients were screened and 30 patients were enrolled and treated in this study. A full medical/surgical history, including information relating to prior or existing medical condition/ surgical procedures that may be relevant.

Period 1

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

Blinding implementation details:

Randomization took place using an IXRS. Placebo matching the study drug was used. Since administration was subcutaneous (SC), and IMO-8400 has been associated with potentially unblinding injection site reactions (ISRs), efficacy assessments were performed by qualified and trained raters who were blinded to treatment assignment and study drug injection sites and who had no other role or responsibility in the study other than administration of these efficacy assessments.

Arms

Are arms mutually exclusive?	Yes
Arm title	Placebo

Arm description:

Once weekly SC injections of placebo (Sterile Saline for Injection, USP/EP) for 24 weeks.

Arm type	Placebo
Investigational medicinal product name	Sterile Saline
Investigational medicinal product code	N/A
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

Once weekly SC injections for 24 weeks.

Arm title	IMO-8400 (0.6 mg/kg)
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Arm description:

Once weekly SC injections of IMO-8400 at 0.6 mg/kg for 24 weeks.

Arm type	Experimental
Investigational medicinal product name	IMO-8400
Investigational medicinal product code	IMO-8400
Other name	
Pharmaceutical forms	Powder for solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

Once weekly SC injections of IMO-8400 at 0.6 mg/kg for 24 weeks.

Arm title	IMO-8400 (1.8 mg/kg)
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Arm description:

Once weekly SC injections of IMO-8400 at 1.8 mg/kg for 24 weeks.

Arm type	Experimental
Investigational medicinal product name	IMO-8400
Investigational medicinal product code	IMO-8400
Other name	
Pharmaceutical forms	Powder for solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

Once weekly SC injections of IMO-8400 at 1.8 mg/kg for 24 weeks.

Number of subjects in period 1	Placebo	IMO-8400 (0.6 mg/kg)	IMO-8400 (1.8 mg/kg)
Started	11	9	10
Completed	8	5	6
Not completed	3	4	4
Consent withdrawn by subject	1	-	1
Adverse event, non-fatal	1	3	-
Adverse Event of Special Interest	-	-	1
Lack of efficacy	1	1	2

Baseline characteristics

Reporting groups

Reporting group title	Placebo
Reporting group description: Once weekly SC injections of placebo (Sterile Saline for Injection, USP/EP) for 24 weeks.	
Reporting group title	IMO-8400 (0.6 mg/kg)
Reporting group description: Once weekly SC injections of IMO-8400 at 0.6 mg/kg for 24 weeks.	
Reporting group title	IMO-8400 (1.8 mg/kg)
Reporting group description: Once weekly SC injections of IMO-8400 at 1.8 mg/kg for 24 weeks.	

Reporting group values	Placebo	IMO-8400 (0.6 mg/kg)	IMO-8400 (1.8 mg/kg)
Number of subjects	11	9	10
Age categorical			
Units: Subjects			
Adults (18-64 years)	10	7	7
From 65-84 years	1	2	3
Age continuous			
Age of patients at baseline.			
Units: years			
arithmetic mean	51.3	48.3	54.6
standard deviation	± 10.55	± 14.23	± 14.12
Gender categorical			
Units: Subjects			
Female	7	7	9
Male	4	2	1
Body Mass Index (kg/m ²)			
Body mass index was calculated as weight in kg / (height in cm / 100) ²			
Units: kg/m ²			
arithmetic mean	34.15	26.83	27.76
standard deviation	± 7.339	± 5.148	± 5.749

Reporting group values	Total		
Number of subjects	30		
Age categorical			
Units: Subjects			
Adults (18-64 years)	24		
From 65-84 years	6		
Age continuous			
Age of patients at baseline.			
Units: years			
arithmetic mean	-		
standard deviation			
Gender categorical			
Units: Subjects			
Female	23		

Male	7		
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Body Mass Index (kg/m2)			
Body mass index was calculated as weight in kg / (height in cm / 100)2			
Units: kg/m2			
arithmetic mean			
standard deviation	-		

End points

End points reporting groups

Reporting group title	Placebo
Reporting group description: Once weekly SC injections of placebo (Sterile Saline for Injection, USP/EP) for 24 weeks.	
Reporting group title	IMO-8400 (0.6 mg/kg)
Reporting group description: Once weekly SC injections of IMO-8400 at 0.6 mg/kg for 24 weeks.	
Reporting group title	IMO-8400 (1.8 mg/kg)
Reporting group description: Once weekly SC injections of IMO-8400 at 1.8 mg/kg for 24 weeks.	

Primary: Change from Baseline in mCDASiv2-activity score

End point title	Change from Baseline in mCDASiv2-activity score
End point description: The efficacy of treatment with IMO-8400 was assessed primarily by the changes over time in CDASI-Activity score (modified CDASI version 2 [mCDASiv2]). The CDASiv2 is a clinician administered, 1-page instrument designed to evaluate the cutaneous manifestations of DM. The CDASI includes separate measurements for disease activity and damage and yields a total score that captures overall disease state, an activity score that reflects the current inflammatory state of disease, and a damage score. Decreases in CDASI scores are indicative of improvement. The CDASiv2 was modified for this study such that abdominal assessments were not performed after the first injection of study drug, to avoid unblinding the raters. Therefore, post-injection score totals did not include scores for the abdomen.	
End point type	Primary
End point timeframe: Measured at Visits 2, 6, 10, 14, 18, 22, and 26 (EOT/Week 25).	

End point values	Placebo	IMO-8400 (0.6 mg/kg)	IMO-8400 (1.8 mg/kg)	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	11	9	10	
Units: mCDASiv2-activity score				
least squares mean (confidence interval 95%)	28.3 (24.74 to 31.77)	27.6 (23.41 to 31.72)	25.1 (21.36 to 28.90)	

Statistical analyses

Statistical analysis title	mCDASiv2-Activity Score (0.6mg/kg)
Statistical analysis description: The primary efficacy analysis was a repeated measures mixed model analysis (RMMM) of mCDASiv2-Activity score across all visits; a one-sided test was performed with alpha set at 0.05. The RMMM used the mCDASiv2-Activity score as dependent variable and treatment group, visit week, treatment group by time interaction, and baseline CDASiv2-Activity score as independent variables. Subject was modeled as a random effect, when applicable.	
Comparison groups	IMO-8400 (0.6 mg/kg) v Placebo

Number of subjects included in analysis	20
Analysis specification	Pre-specified
Analysis type	superiority ^[1]
P-value	= 0.415 ^[2]
Method	Bonferroni-Holm step-down method
Parameter estimate	Least squares mean difference
Point estimate	-0.7
Confidence interval	
level	90 %
sides	2-sided
lower limit	-6.14
upper limit	4.75

Notes:

[1] - A one-sided test was performed with alpha set at 0.05. The overall alpha level was controlled at 0.05 one-sided using the Bonferroni-Holm step-down method.

[2] - Pairwise contrasts of the least squares means was performed between each IMO-8400 treatment group vs placebo. One sided p-values were reported for each hypothesis test. The P-value compares placebo vs. 0.6 mg/kg across all visits.

Statistical analysis title	mCDASiv2-Activity Score (1.8 mg/kg)
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Statistical analysis description:

The primary efficacy analysis was a repeated measures mixed model analysis (RMMM) of mCDASiv2-Activity score across all visits; a one-sided test was performed with alpha set at 0.05. The RMMM used the mCDASiv2-Activity score as dependent variable and treatment group, visit week, treatment group by time interaction, and baseline CDASiv2-Activity score as independent variables. Subject was modeled as a random effect, when applicable.

Comparison groups	Placebo v IMO-8400 (1.8 mg/kg)
Number of subjects included in analysis	21
Analysis specification	Pre-specified
Analysis type	superiority ^[3]
P-value	= 0.155 ^[4]
Method	Bonferroni-Holm step-down method
Parameter estimate	Least squares mean difference
Point estimate	-3.1
Confidence interval	
level	90 %
sides	2-sided
lower limit	-8.28
upper limit	2.03

Notes:

[3] - A one-sided test was performed with alpha set at 0.05. The overall alpha level was controlled at 0.05 one-sided using the Bonferroni-Holm step-down method.

[4] - Pairwise contrasts of the least squares means was performed between each IMO-8400 treatment group vs placebo. One sided p-values were reported for each hypothesis test. The P-value compares placebo vs. 1.8 mg/kg across all visits.

Adverse events

Adverse events information

Timeframe for reporting adverse events:

At each study visit, patients were evaluated for new AEs and the status of existing AEs. All AEs from the time the informed consent was signed through the EOS Visit 27/Week 29 were recorded on the eCRF.

Adverse event reporting additional description:

Treatment-emergent adverse events are presented.

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	18.0
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Reporting groups

Reporting group title	Placebo
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Reporting group description:

Once weekly SC injections of placebo (Sterile Saline for Injection, USP/EP) for 24 weeks.

Reporting group title	IMO-8400 (0.6 mg/kg)
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Reporting group description:

Once weekly SC injections of IMO-8400 at 0.6 mg/kg for 24 weeks.

Reporting group title	IMO-8400 (1.8 mg/kg)
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Reporting group description:

Once weekly SC injections of IMO-8400 at 1.8 mg/kg for 24 weeks.

Serious adverse events	Placebo	IMO-8400 (0.6 mg/kg)	IMO-8400 (1.8 mg/kg)
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Injury, poisoning and procedural complications			
Wrist fracture			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

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

Non-serious adverse events	Placebo	IMO-8400 (0.6 mg/kg)	IMO-8400 (1.8 mg/kg)
Total subjects affected by non-serious adverse events			
subjects affected / exposed	11 / 11 (100.00%)	9 / 9 (100.00%)	10 / 10 (100.00%)

Neoplasms benign, malignant and unspecified (incl cysts and polyps) Benign bone neoplasm subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Vascular disorders Hot flush subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Flushing subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
General disorders and administration site conditions Injection site erythema subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	7 / 9 (77.78%) 22	10 / 10 (100.00%) 74
Injection site pain subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	6 / 9 (66.67%) 36	7 / 10 (70.00%) 71
Injection site induration subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	5 / 9 (55.56%) 9	5 / 10 (50.00%) 10
Injection site pruritus subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	3 / 9 (33.33%) 8	5 / 10 (50.00%) 30
Injection site bruising subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	2 / 9 (22.22%) 2	4 / 10 (40.00%) 9
Fatigue subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	3 / 9 (33.33%) 3	2 / 10 (20.00%) 2
Injection site vesicles subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	3 / 10 (30.00%) 4
Injection site haematoma subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0

Injection site rash			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	2 / 10 (20.00%)
occurrences (all)	0	0	22
Malaise			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	1 / 10 (10.00%)
occurrences (all)	0	1	3
Application site alopecia			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Asthenia			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Chest pain			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Feeling hot			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Influenza like illness			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	4	0
Injection site discolouration			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	2	0
Injection site exfoliation			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Injection site haemorrhage			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Injection site swelling			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	3
Non-cardiac chest pain			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1

Oedema peripheral subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Pyrexia subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Respiratory, thoracic and mediastinal disorders			
Oropharyngeal pain subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 2	1 / 10 (10.00%) 1
Cough subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Dyspnoea subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Nasal congestion subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Throat lesion subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Psychiatric disorders			
Insomnia subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	2 / 10 (20.00%) 3
Anxiety subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 4	0 / 10 (0.00%) 0
Anxiety disorder subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Psychosomatic disease subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Investigations			

Complement factor C3 decreased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	2 / 9 (22.22%) 2	1 / 10 (10.00%) 1
Anti-platelet antibody positive subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	2 / 9 (22.22%) 5	0 / 10 (0.00%) 0
Weight increased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	2 / 9 (22.22%) 2	0 / 10 (0.00%) 0
Aspartate aminotransferase increased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Blood creatine phosphokinase increased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Double stranded DNA antibody positive subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Monocyte count increased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Neutrophil count decreased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Urine leukocyte esterase positive subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Weight decreased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
White blood cell count decreased subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Injury, poisoning and procedural complications			

Contusion			
subjects affected / exposed	2 / 11 (18.18%)	0 / 9 (0.00%)	2 / 10 (20.00%)
occurrences (all)	4	0	2
Fall			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Meniscus injury			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Muscle strain			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Nervous system disorders			
Headache			
subjects affected / exposed	1 / 11 (9.09%)	2 / 9 (22.22%)	3 / 10 (30.00%)
occurrences (all)	2	2	4
Dizziness			
subjects affected / exposed	2 / 11 (18.18%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	2	0	1
Hypoaesthesia			
subjects affected / exposed	1 / 11 (9.09%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	1	1	0
Burning sensation			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Head discomfort			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	2
Hypersomnia			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Migraine			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Neuropathy peripheral			

subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Syncope			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Blood and lymphatic system disorders			
Leukocytosis			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Thrombocytopenia			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	4
Eye disorders			
Vision blurred			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	2 / 11 (18.18%)	0 / 9 (0.00%)	2 / 10 (20.00%)
occurrences (all)	4	0	2
Nausea			
subjects affected / exposed	1 / 11 (9.09%)	1 / 9 (11.11%)	2 / 10 (20.00%)
occurrences (all)	1	1	2
Abdominal discomfort			
subjects affected / exposed	1 / 11 (9.09%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	1	1	0
Abdominal pain upper			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	1 / 10 (10.00%)
occurrences (all)	0	1	3
Abdominal distension			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Constipation			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Faeces soft			

subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	0	0	1
Gastrooesophageal reflux disease			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0
Large intestine polyp			
subjects affected / exposed	0 / 11 (0.00%)	1 / 9 (11.11%)	0 / 10 (0.00%)
occurrences (all)	0	1	0
Vomiting			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	3	0	0
Skin and subcutaneous tissue disorders			
Pruritus			
subjects affected / exposed	2 / 11 (18.18%)	2 / 9 (22.22%)	2 / 10 (20.00%)
occurrences (all)	2	2	2
Dermatomyositis			
subjects affected / exposed	2 / 11 (18.18%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	3	0	1
Rash			
subjects affected / exposed	1 / 11 (9.09%)	1 / 9 (11.11%)	2 / 10 (20.00%)
occurrences (all)	1	1	2
Alopecia			
subjects affected / exposed	0 / 11 (0.00%)	2 / 9 (22.22%)	0 / 10 (0.00%)
occurrences (all)	0	2	0
Erythema			
subjects affected / exposed	0 / 11 (0.00%)	0 / 9 (0.00%)	2 / 10 (20.00%)
occurrences (all)	0	0	2
Rash erythematous			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	1 / 10 (10.00%)
occurrences (all)	1	0	1
Urticaria			
subjects affected / exposed	0 / 11 (0.00%)	2 / 9 (22.22%)	0 / 10 (0.00%)
occurrences (all)	0	2	0
Dermal cyst			
subjects affected / exposed	1 / 11 (9.09%)	0 / 9 (0.00%)	0 / 10 (0.00%)
occurrences (all)	1	0	0

Hyperhidrosis subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Skin fissures subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Renal and urinary disorders Nephrolithiasis subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Nocturia subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Musculoskeletal and connective tissue disorders Muscular weakness subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Musculoskeletal chest pain subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Myalgia subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Antisynthetase syndrome subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Osteoporosis subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Pain in extremity subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Plantar fasciitis subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Temporomandibular joint syndrome			

subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Infections and infestations			
Upper respiratory tract infection subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	3 / 9 (33.33%) 6	2 / 10 (20.00%) 2
Urinary tract infection subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	1 / 9 (11.11%) 3	0 / 10 (0.00%) 0
Cystitis subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Ear infection subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Gastroenteritis viral subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	1 / 9 (11.11%) 1	0 / 10 (0.00%) 0
Genital herpes simplex subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Nasopharyngitis subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Parotitis subjects affected / exposed occurrences (all)	1 / 11 (9.09%) 1	0 / 9 (0.00%) 0	0 / 10 (0.00%) 0
Metabolism and nutrition disorders			
Abnormal loss of weight subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1
Decreased appetite subjects affected / exposed occurrences (all)	0 / 11 (0.00%) 0	0 / 9 (0.00%) 0	1 / 10 (10.00%) 1

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
22 July 2015	The protocol was updated per requests from Food and Drug Administration (FDA) to state that any serious adverse events assessed as possibly or probably related to study drug would automatically require withdrawal of study drug.
26 August 2015	The protocol was updated per requests from the Institutional Review Board/Independent Ethics Committee. These updates included a change made to ensure study objectives are clearly associated with measurable study endpoints, clarification of the use of the CDASiv2 tool at specific study visits, clarification of study duration, clarification to PD assessments, change made to define the pharmacokinetic (PK) analysis population and clarification of time and extent of PK sampling, clarification that patients who do not meet eligibility criteria at the Screening Visit (Visit 1) may have screening procedures performed during the screening period and/or be rescreened, change made to focus the required cancer screening procedures on the patient population at the highest risk for DM-associated cancer, change made to add kidney disease as an exclusionary condition and to clarify that some pre-existing conditions do not require exclusion of the patient as long as the disease is considered controlled.
29 February 2016	The protocol was updated to reflect changes based on additional dose interruption criteria, updated dose cohorts, and operational considerations. These changes included testing only the 0.6 mg/kg dose cohort of IMO-8400 compared to placebo, updating statistical analyses to assess if patient demographics or different baseline DM disease characteristics independently affected clinical measurements, updating statistical analysis to be in line with updated dose cohorts, changes to inclusion criteria to include patients taking intravenous immunoglobulin, DM patients who did not meet criteria of Bohan and Peter exactly, and to minimize radiation exposure and clarify RB testing procedures and additional administrative, technical and procedural clarifications.
25 May 2016	The protocol was updated per requests from FDA review. These changes included to test the 0.6 and 1.8 mg/kg dose cohorts of IMO-8400 compared with placebo in a 1:1:1 ratio, updating statistical analyses to be in line with updated dose cohorts, changes made to update dose rationale with safety data available from completed and ongoing studies of IMO-8400 and additional administrative, technical, and procedural clarifications.
27 January 2017	The protocol was updated based on Investigator feedback and operational considerations. These changes included adding benefits and risks assessment of IMO-8400, updates to inclusion/exclusion criteria, allowance of facial photography, and additional administrative, technical, and procedural clarifications.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported