Clinical trial results:
A Randomized, Double-blind, Placebo-controlled, Efficacy and Safety Study of WVE-210201 with Open-label Extension in Ambulatory Patients with Duchenne Muscular Dystrophy (DYSTANCE 51)

Summary

EudraCT number	2018-004009-22
Trial protocol	FR GB SE NL BE PL CZ DE IT
Global end of trial date	09 January 2020
Results information	
Result version number	v1 (current)
This version publication date	13 September 2020
First version publication date	13 September 2020

Trial information

Trial identification	
Sponsor protocol code	WVE-DMDX51-003
Additional study identifiers	
ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03907072
WHO universal trial number (UTN)	-

Notes:

Sponsors	
Sponsor organisation name	Wave Life Sciences UK Limited
Sponsor organisation address	1 Chamberlain Square CS, Birmingham, United Kingdom, B3 3AX
Public contact	Chief Medical Officer, Wave Life Sciences, +617 949-2900, info@wavelifesci.com
Scientific contact	Chief Medical Officer, Wave Life Sciences, +617 949-2900, info@wavelifesci.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	11 February 2020
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	09 January 2020
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To evaluate the efficacy of WVE-210201 by assessing changes in motor function by North Star Ambulatory Assessment (NSAA) (EU/Japan).

Protection of trial subjects:

Written informed consent from each patient or patient's parent(s) or legal guardian(s), if applicable, and written assent from each patient, if applicable, were obtained before any study-specific screening or baseline period evaluations were performed. The anonymity of participating patients was maintained to the extent required by applicable laws and in accordance with current HIPAA standards. This study was designed and monitored in accordance with Sponsor procedures, which complied with the ethical principles of Good Clinical Practice (GCP) as required by the major regulatory authorities, and in accordance with the Declaration of Helsinki.

A Data Monitoring Committee (DMC) was to review unblinded safety data periodically and on an ad hoc basis at least until completion of the Double-blind period. In addition, the DMC was to review the results from the planned interim analyses.

Background therapy: -
Evidence for comparator: -

Actual start date of recruitment	24 January 2018
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: 1
Country: Number of subjects enrolled	Belgium: 1
Country: Number of subjects enrolled	France: 2
Country: Number of subjects enrolled	Italy: 2
Worldwide total number of subjects	6
EEA total number of subjects	6

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37	0

wk	
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	6
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 in 4 countries (Italy, France, Belgium, and Sweden from 04 September 2019 to 09 January 2020).

Pre-assignment

Screening details:

Screening evaluations were completed within 6 weeks of signing the informed consent form. A total of 6 subjects were screened and enrolled in study treatment.

Period 1

Period 1 title	Period 1 (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:

Study was conducted as randomized, placebo-controlled, and double-blind. Results for the OLE portion of the study were not reported due to early study termination.

Arms

Are arms mutually exclusive?	Yes
Arm title	Placebo

Arm description:

Matched saline solution administered alone via IV infusion

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

Dosage and administration details:

Matched saline solution administered alone via IV infusion

Arm title	3 mg/kg WVE-210201

Arm description:

3 mg/kg WVE-210201 administered via IV infusion

Arm type	Experimental
Investigational medicinal product name	Suvodirsen
Investigational medicinal product code	WVE-210201
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Patients received weekly IV infusions of suvodirsen or placebo. WVE-210201 was provided as an isotonic solution for dilution for infusion.

Arm title	4.5 mg/kg WVE-210201

Arm description:

4.5 mg/kg WVE-210201 administered via IV infusion

Arm type	Experimental

Investigational medicinal product name	Suvodirsen
Investigational medicinal product code	WVE-210201
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Patients received weekly IV infusions of suvodirsen or placebo. WVE-210201 was provided as an isotonic solution for dilution for infusion.

Number of subjects in period 1	Placebo	3 mg/kg WVE-210201	4.5 mg/kg WVE-210201
Started	2	2	2
Completed	0	0	0
Not completed	2	2	2
Study Terminated by Sponsor	2	2	2

Baseline characteristics

Reporting groups	
Reporting group title	Placebo
Reporting group description:	
Matched saline solution administered alone via IV infusion	
Reporting group title	3 mg/kg WVE-210201
Reporting group description:	
3 mg/kg WVE-210201 administered via IV infusion	
Reporting group title	4.5 mg/kg WVE-210201
Reporting group description:	
4.5 mg/kg WVE-210201 administered via IV infusion	

Reporting group values	Placebo	3 mg/kg WVE-210201	4.5 mg/kg WVE-210201
Number of subjects	2	2	2
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	2	2	2
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	0	0	0
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	0	0	0
Male	2	2	2

Reporting group values	Total		
Number of subjects	6		
Age categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	0		
Newborns (0-27 days)	0		
Infants and toddlers (28 days-23 months)	0		
Children (2-11 years)	6		
Adolescents (12-17 years)	0		
Adults (18-64 years)	0		
From 65-84 years	0		
85 years and over	0		

Gender categorical Units: Subjects			
Female	0		
Male	6		

Subject analysis sets

Subject analysis set title	Safety population
Subject analysis set type	Safety analysis

Subject analysis set description:

All randomly assigned patients who received at least 1 dose of WVE-210201 or placebo.

Reporting group values	Safety population		
Number of subjects	6		
Age categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	0		
Newborns (0-27 days)	0		
Infants and toddlers (28 days-23 months)	0		
Children (2-11 years)	6		
Adolescents (12-17 years)	0		
Adults (18-64 years)	0		
From 65-84 years	0		
85 years and over	0		
Gender categorical Units: Subjects			
Female	0		
Male	6		

End points

End points reporting groups

Reporting group title	Placebo
Reporting group description:	
Matched saline solution administered alone via IV infusion	
Reporting group title	3 mg/kg WVE-210201
Reporting group description:	
3 mg/kg WVE-210201 administered via IV infusion	
Reporting group title	4.5 mg/kg WVE-210201
Reporting group description:	
4.5 mg/kg WVE-210201 administered via IV infusion	
Subject analysis set title	Safety population
Subject analysis set type	Safety analysis
Subject analysis set description:	
All randomly assigned patients who received at least 1 dose of WVE-210201 or placebo.	

Primary: Change from baseline in NSAA through 48 weeks (EU/Japan)

End point title	Change from baseline in NSAA through 48 weeks (EU/Japan)[1]
End point description:	
The NSAA is a validated unidimensional scale, designed for measuring motor function in ambulatory boys with DMD. There are no primary endpoint results due to patients early termination.	
End point type	Primary
End point timeframe:	
From baseline over 48 weeks	

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 has been performed due to early study termination.

End point values	Placebo	3 mg/kg WVE-210201	4.5 mg/kg WVE-210201	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	2	2	2	
Units: Subjects				
number (not applicable)	2	2	2	

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: Day 1 to Early Termination	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	22.1

Reporting groups	
Reporting group title	Placebo
Reporting group description: Matched saline solution administered alone via IV infusion	
Reporting group title	3 mg/kg WVE-210201
Reporting group description: 3 mg/kg WVE-210201 administered via IV infusion	
Reporting group title	4.5 mg/kg WVE-210201
Reporting group description: 4.5 mg/kg WVE-210201 administered via IV infusion	

Serious adverse events	Placebo	3 mg/kg WVE-210201	4.5 mg/kg WVE-210201
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Cardiac disorders			
Cardiac disorder			
subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
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	3 mg/kg WVE-210201	4.5 mg/kg WVE-210201
Total subjects affected by non-serious adverse events			
subjects affected / exposed	2 / 2 (100.00%)	2 / 2 (100.00%)	2 / 2 (100.00%)
Investigations			
C-reactive protein increased			

subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
occurrences (all)	0	0	1
Injury, poisoning and procedural complications			
Bone contusion			
subjects affected / exposed	1 / 2 (50.00%)	0 / 2 (0.00%)	0 / 2 (0.00%)
occurrences (all)	1	0	0
Nervous system disorders			
Headache			
subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
occurrences (all)	0	0	4
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	0 / 2 (0.00%)	1 / 2 (50.00%)	2 / 2 (100.00%)
occurrences (all)	0	3	4
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	0 / 2 (0.00%)	1 / 2 (50.00%)	1 / 2 (50.00%)
occurrences (all)	0	1	1
Vomiting			
subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
occurrences (all)	0	0	4
Infections and infestations			
Gastroenteritis			
subjects affected / exposed	1 / 2 (50.00%)	0 / 2 (0.00%)	0 / 2 (0.00%)
occurrences (all)	1	0	0
Nasopharyngitis			
subjects affected / exposed	0 / 2 (0.00%)	1 / 2 (50.00%)	1 / 2 (50.00%)
occurrences (all)	0	1	1
Oral herpes			
subjects affected / exposed	0 / 2 (0.00%)	0 / 2 (0.00%)	1 / 2 (50.00%)
occurrences (all)	0	0	1

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
09 July 2019	Amendment 2.0, 48-week open-label extension period added to the study.

Notes:

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.

Not applicable

Notes: