Clinical trial results:
Effect of oral CDP-choline on visual function in young amblyopic patients

Summary

EudraCT number	2006-006753-27
Trial protocol	IT
Global end of trial date	01 January 2017

Results information

Result version number	v1 (current)
This version publication date	29 April 2022
First version publication date	29 April 2022

Trial information

Trial identification

Sponsor protocol code	129/2006/O/Sper

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	TUBILUX PHARMA
Sponsor organisation address	Via Costarica 20/22, Pomezia (RM), Italy, 00071
Public contact	Michela Fresina, Ophthalmology Unit University of Bologna Italy, +39 051 2142837, michela.fresina2@unibo.it
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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?	Yes
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	01 January 2017
Is this the analysis of the primary completion data?	Yes
Primary completion date	01 December 2016
Global end of trial reached?	Yes
Global end of trial date	01 January 2017
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Verify whether oral administration of CDP-choline improves the visual function in amblyopic patients after 30-day treatment, as already observed after intramuscular administration of 500-1,000 mg of CDP-choline

Protection of trial subjects:

Informed consent signed by the parent and paper data collection in a supervised enviroment

Background therapy:

No previous treatment for amblyopia
No other local or systemic therapy

Evidence for comparator: -	
Actual start date of recruitment	01 May 2006
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	Italy: 67
Worldwide total number of subjects	67
EEA total number of subjects	67

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)	67
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:

Children suffering from anisometropic or strabismic amblyopia recruited from May 2006 to December 2006 in the Ophthalmology Service of the University of Bologna and the Eye Clinic of the Catholic University of Rome.

Pre-assignment

Screening details:

Patients of both sexes suffering from anisometropic or strabismic monolateral amblyopia, aged between 5 and 10 years, not previously treated with conventional antiamblyopic therapies.

Pre-assignment period milestones

Number of subjects started	67
Number of subjects completed	67

Period 1

Period 1 title	Visit 1 day 0
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Treated patients

Arm description:

Patients treated with CDP-choline (800 mg daily) + 2 h patching daily

Arm type	Experimental
Investigational medicinal product name	Oral Cytidine-5’-diphosphocoline
Investigational medicinal product code	
Other name	CITICOLINE
Pharmaceutical forms	Granules
Routes of administration	Oral use

Dosage and administration details:

7-28 mg/Kg/daily

Arm title	Control Group

Arm description:

Patients treated with 2 h patching daily

Arm type	Adhesive patch

No investigational medicinal product assigned in this arm

Number of subjects in period 1	Treated patients	Control Group
Started	37	30
Completed	37	30

Period 2	
Period 2 title	Visit 2 day 30
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms	
Are arms mutually exclusive?	Yes
Arm title	Treated patients
Arm description: Patients treated with CDP-choline (800 mg daily) + 2 h patching daily	
Arm type	Experimental
Investigational medicinal product name	Oral Cytidine-5’-diphosphocoline
Investigational medicinal product code	
Other name	CITICOLINE
Pharmaceutical forms	Granules
Routes of administration	Oral use
Dosage and administration details: 7-28 mg/Kg/daily	
Arm title	Control Group
Arm description: Patients treated with 2 h patching daily	
Arm type	Adhesive patch
No investigational medicinal product assigned in this arm	

Number of subjects in period 2	Treated patients	Control Group
Started	37	30
Completed	37	30

Period 3	
Period 3 title	Visit 3 day 90
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms	
Are arms mutually exclusive?	Yes
Arm title	Treated patients

Arm description:

Patients treated with CDP-choline (800 mg daily) + 2 h patching daily

Arm type	Experimental
Investigational medicinal product name	Oral Cytidine-5’-diphosphocoline
Investigational medicinal product code	
Other name	CITICOLINE
Pharmaceutical forms	Granules
Routes of administration	Oral use

Dosage and administration details:

7-28 mg/Kg/daily

Arm title	Control Group

Arm description:

Patients treated with 2 h patching daily

Arm type	Adhesive patch

No investigational medicinal product assigned in this arm

Number of subjects in period 3	Treated patients	Control Group
Started	37	30
Completed	32	29
Not completed	5	1
Drop out for reasons no related to the treatment	5	1

Baseline characteristics

Reporting groups	
Reporting group title	Treated patients
Reporting group description:	
Patients treated with CDP-choline (800 mg daily) + 2 h patching daily	
Reporting group title	Control Group
Reporting group description:	
Patients treated with 2 h patching daily	

Reporting group values	Treated patients	Control Group	Total
Number of subjects	37	30	67
Age categorical Units: Subjects			
Children (2-11 years)	37	30	67
Age continuous Units: years			
arithmetic mean	5.9	6.2	
full range (min-max)	5 to 10	5 to 10	-
Gender categorical Units: Subjects			
Female	21	16	37
Male	16	14	30

End points

End points reporting groups

Reporting group title	Treated patients
Reporting group description:	
Patients treated with CDP-choline (800 mg daily) + 2 h patching daily	
Reporting group title	Control Group
Reporting group description:	
Patients treated with 2 h patching daily	
Reporting group title	Treated patients
Reporting group description:	
Patients treated with CDP-choline (800 mg daily) + 2 h patching daily	
Reporting group title	Control Group
Reporting group description:	
Patients treated with 2 h patching daily	
Reporting group title	Treated patients
Reporting group description:	
Patients treated with CDP-choline (800 mg daily) + 2 h patching daily	
Reporting group title	Control Group
Reporting group description:	
Patients treated with 2 h patching daily	

Primary: Change in visual acuity (BCVA) of amblyopic eyes measured by Snellen's E chart

End point title	Change in visual acuity (BCVA) of amblyopic eyes measured by Snellen's E chart
End point description:	
End point type	Primary
End point timeframe:	

Data were collected in 3 time points:
Visit 1: baseline data were collected
Visit 2: after 30 days of treatment
Visit 3: after 90 days (the treatment was discontinued in the last 60 days)

End point values	Treated patients	Control Group	Treated patients	Control Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	37	30	37	30
Units: LogMAR				
arithmetic mean (standard deviation)	0.34 (± 0.22)	0.26 (± 0.19)	0.16 (± 0.15)	0.09 (± 0.09)

End point values	Treated patients	Control Group		

Subject group type	Reporting group	Reporting group		
Number of subjects analysed	32	29		
Units: LogMAR				
arithmetic mean (standard deviation)	0.14 (± 0.15)	0.13 (± 0.15)		

Statistical analyses

Statistical analysis title	Two-way ANOVA
Comparison groups	Treated patients v Treated patients v Control Group v Treated patients v Control Group v Control Group
Number of subjects included in analysis	195
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	ANOVA

Statistical analysis title	Tukey's test
Comparison groups	Control Group v Treated patients v Control Group v Treated patients
Number of subjects included in analysis	128
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Tukey's test

Secondary: BCVA of healthy eyes measured by isolated E letters (Snellen’s E chart)

End point title	BCVA of healthy eyes measured by isolated E letters (Snellen’s E chart)

End point description:

End point type	Secondary

End point timeframe:

Data were collected in 3 time points:
Visit 1: baseline data were collected
Visit 2: after 30 days of treatment
Visit 3: after 90 days (the treatment was discontinued in the last 60 days)

End point values	Treated patients	Control Group	Treated patients	Control Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	37	30	37	30
Units: LogMAR				
arithmetic mean (standard deviation)	0.07 (± 0.09)	0.02 (± 0.06)	0.04 (± 0.06)	0.01 (± 0.02)

End point values	Treated patients	Control Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	32	29		
Units: LogMAR				
arithmetic mean (standard deviation)	0.04 (± 0.08)	0.01 (± 0.02)		

Statistical analyses

Statistical analysis title	Two-way ANOVA
Comparison groups	Treated patients v Control Group v Treated patients v Control Group v Treated patients v Control Group
Number of subjects included in analysis	195
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	ANOVA

Statistical analysis title	Tukey's test
Comparison groups	Treated patients v Control Group v Treated patients v Control Group
Number of subjects included in analysis	128
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Tukey's test

Secondary: BCVA of amblyopic eyes measured by isolated E letters

End point title	BCVA of amblyopic eyes measured by isolated E letters

End point description:

End point type	Secondary

End point timeframe:

Data were collected in 3 time points:
Visit 1: baseline data were collected
Visit 2: after 30 days of treatment

End point values	Treated patients	Control Group	Treated patients	Control Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	37	30	37	30
Units: LogMAR				
arithmetic mean (standard deviation)	0.21 (± 0.26)	0.17 (± 0.21)	0.08 (± 0.14)	0.03 (± 0.08)

End point values	Treated patients	Control Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	32	29		
Units: LogMAR				
arithmetic mean (standard deviation)	0.05 (± 0.12)	0.06 (± 0.13)		

Statistical analyses

Statistical analysis title	Two-way ANOVA
Comparison groups	Treated patients v Control Group v Treated patients v Control Group v Treated patients v Control Group
Number of subjects included in analysis	195
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	ANOVA

Statistical analysis title	Tukey's test
Comparison groups	Treated patients v Control Group v Treated patients v Control Group
Number of subjects included in analysis	128
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Tukey's test

Adverse events

Adverse events information[1]	
Timeframe for reporting adverse events: Throughout the entire timeframe of the trial.	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	9.1

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

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.
Justification: No adverse reaction to CDP-choline, either minor or serious, was reported throughout the trial. The safety of the treatment was judged to be excellent by the investigators.

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