Clinical trial results:
A prospective randomized, double blind study on safety and efficacy of Alprostadil as additional Anticoagulant in Patients with veno- venous ECMO

Summary

EudraCT number	2015-005014-30
Trial protocol	AT
Global end of trial date	01 November 2021

Results information

Result version number	v1 (current)
This version publication date	28 April 2023
First version publication date	28 April 2023

Trial information

Trial identification

Sponsor protocol code	AlproECMO_1.0

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02895373
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Medical University of Vienna
Sponsor organisation address	Spitalgasse 23, Vienna, Austria, 1090
Public contact	Internal Medicine I, Medical University of Vienna, +43 14040044920, thomas.staudinger@meduniwien.ac.at
Scientific contact	Internal Medicine I, Medical University of Vienna, +43 14040044920, thomas.staudinger@meduniwien.ac.at

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	01 November 2021
Is this the analysis of the primary completion data?	Yes
Primary completion date	01 November 2021
Global end of trial reached?	Yes
Global end of trial date	01 November 2021
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To measure efficacy of Alprostadil as an additional anticoagulant in patients treated with veno-venous ECMO therapy. Main objective is the reduction in bleeding rate assessed by need of packed red blood cells.

Protection of trial subjects:

Predefined criteria for study discontinuation were used including bleeding type 3 or higher according to the BARC bleeding classification, a decrease in platelet count <50x109/l despite platelet transfusions, or the occurrence of heparin-induced thrombocytopenia according to the 4Ts score with the presence of platelet factor 4 antibodies.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 June 2016
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	Austria: 50
Worldwide total number of subjects	50
EEA total number of subjects	50

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)	43
From 65 to 84 years	7
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

All patients receiving ECMO were screened for eligibility.

Pre-assignment

Screening details:

not applicable

Period 1

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

Blinding implementation details:

Patients were randomly assigned in a 1:1 ratio to receive PGE1 or placebo (0.9% saline). Randomization was performed by a pharmacist at the local pharmacy using consecutively numbered randomization envelopes with the information of the study group. Both study medications were prepared by pharmacists in ready-to-use motor pumps identical in appearance using a patient identifier. Upon arrival of the study medication, the study coordinator immediately administered the study medication

Arms

Are arms mutually exclusive?	Yes
Arm title	Intervention (PGE1)

Arm description: -

Arm type	Experimental
Investigational medicinal product name	Prostaglandin E1
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous use

Dosage and administration details:

5 ng/kg/min continuously administered

Arm title	Placebo (0.9% NaCl)

Arm description: -

Arm type	Placebo
Investigational medicinal product name	0.9% NaCl
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous use

Dosage and administration details:

continuously administered

Number of subjects in period 1[1]	Intervention (PGE1)	Placebo (0.9% NaCl)
Started	24	24
Completed	24	24

Notes:

[1] - The number of subjects reported to be in the baseline period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.
Justification: 2 patients were enrolled but did not receive study medication as they fulfilled drop out criteria shortly after enrollment but before study drug administration

Baseline characteristics

Reporting groups

Reporting group title	Recruitment Period

Reporting group description: -

Reporting group values	Recruitment Period	Total	
Number of subjects	48	48	
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)	41	41	
From 65-84 years	7	7	
85 years and over	0	0	
Age continuous Units: years			
median	53		
inter-quartile range (Q1-Q3)	45 to 61	-	
Gender categorical Units: Subjects			
Female	16	16	
Male	32	32	

End points

End points reporting groups	
Reporting group title	Intervention (PGE1)
Reporting group description: -	
Reporting group title	Placebo (0.9% NaCl)
Reporting group description: -	

Primary: PRBC transfusion rate	
End point title	PRBC transfusion rate
End point description: number of units of packed red blood cells transfused per 100 study days	
End point type	Primary
End point timeframe: From start to end of study medication administration	

End point values	Intervention (PGE1)	Placebo (0.9% NaCl)		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	24	24		
Units: count	41	39		

Statistical analyses

Statistical analysis title	Between group comparison
Comparison groups	Intervention (PGE1) v Placebo (0.9% NaCl)
Number of subjects included in analysis	48
Analysis specification	Pre-specified
Analysis type	equivalence
P-value	< 0.05
Method	Wilcoxon (Mann-Whitney)

Adverse events

Adverse events information[1]	
Timeframe for reporting adverse events: 6 months	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	24.0

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 serious adverse events in relation to study drug administration occured

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

Online references

http://www.ncbi.nlm.nih.gov/pubmed/35426776