Clinical trial results:
STREAM-2 (STrategic Reperfusion in elderly patients Early After Myocardial Infarction)

Summary

EudraCT number	2016-001642-26
Trial protocol	ES RO
Global end of trial date	30 September 2023

Results information

Result version number	v1 (current)
This version publication date	08 February 2024
First version publication date	08 February 2024

Trial information

Trial identification

Sponsor protocol code	LRD.2016.STREAM2

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02777580
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	KU Leuven LRD
Sponsor organisation address	Waaistraat 6, Leuven, Belgium, 3000
Public contact	Frans Van de Werf, Leuven Coordinating Center, frans.vandewerf@kuleuven.be
Scientific contact	Frans Van de Werf, Leuven Coordinating Center, frans.vandewerf@kuleuven.be

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	13 October 2023
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	30 September 2023
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

In elderly patients ≥ 70yrs with acute ST-elevation myocardial infarction randomised within 3 hours of onset of symptoms the efficacy and safety of a strategy of early fibrinolytic treatment with half-dose tenecteplase and additional antiplatelet therapy with a loading dose of 300 mg clopidogrel, aspirin and coupled with antithrombin therapy followed by catheterisation within 6-24 hours or rescue coronary intervention as required, will be compared to a strategy of primary PCI with a P2Y12 antagonist and antithrombin treatment according to local standards.

Protection of trial subjects:

see protocol

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	15 February 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	Canada: 100
Country: Number of subjects enrolled	Brazil: 20
Country: Number of subjects enrolled	Mexico: 81
Country: Number of subjects enrolled	Australia: 9
Country: Number of subjects enrolled	Chile: 15
Country: Number of subjects enrolled	Serbia: 177
Country: Number of subjects enrolled	Montenegro: 8
Country: Number of subjects enrolled	Russian Federation: 142
Country: Number of subjects enrolled	Spain: 10
Country: Number of subjects enrolled	France: 42
Worldwide total number of subjects	604
EEA total number of subjects	52

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)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	160
From 65 to 84 years	406
85 years and over	38

Subject disposition

Recruitment

Recruitment details:

see protocol

Pre-assignment

Screening details:

see inclusion criteria protocol

Period 1

Period 1 title	30 day period (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Pharmaco-invasive strategy

Arm description:

Half-dose tenecteplase and additional antiplatelet therapy with a loading dose of 300 mg clopidogrel, aspirin and coupled with antithrombin therapy followed by coronary angiography within 6-24 hours or rescue coronary intervention as required.

Arm type	Experimental
Investigational medicinal product name	Tenecteplase
Investigational medicinal product code	
Other name	TNKase, metalyse
Pharmaceutical forms	Concentrate for solution for injection/infusion
Routes of administration	Intravenous bolus use

Dosage and administration details:

50 or 40 mg of drug reconstituted in 10 or 8 ml sterile water for injection given as single weight-adjusted i.v. bolus over 5 - 10 seconds

Arm title	Standard primary PCI

Arm description:

Primary PCI according to local standards

Arm type	standard procedure

No investigational medicinal product assigned in this arm

Number of subjects in period 1	Pharmaco-invasive strategy	Standard primary PCI
Started	401	203
Completed	401	203

Baseline characteristics

Reporting groups	
Reporting group title	Pharmaco-invasive strategy
Reporting group description:	
Half-dose tenecteplase and additional antiplatelet therapy with a loading dose of 300 mg clopidogrel, aspirin and coupled with antithrombin therapy followed by coronary angiography within 6-24 hours or rescue coronary intervention as required.	

Reporting group title	Standard primary PCI
Reporting group description:	
Primary PCI according to local standards	

Reporting group values	Pharmaco-invasive strategy	Standard primary PCI	Total
Number of subjects	401	203	604
Age categorical Units: Subjects			
Adults (18-64 years)	113	47	160
65 years and over	288	156	444
Age continuous Units: years			
arithmetic mean	70	71	
standard deviation	± 8	± 8	-
Gender categorical Units: Subjects			
Female	131	66	197
Male	270	137	407

End points

End points reporting groups

Reporting group title	Pharmaco-invasive strategy
Reporting group description:	
Half-dose tenecteplase and additional antiplatelet therapy with a loading dose of 300 mg clopidogrel, aspirin and coupled with antithrombin therapy followed by coronary angiography within 6-24 hours or rescue coronary intervention as required.	

Reporting group title	Standard primary PCI
Reporting group description:	
Primary PCI according to local standards	

Primary: successful reperfusion

End point title	successful reperfusion
End point description:	

End point type	Primary
End point timeframe:	
30 days	

End point values	Pharmaco-invasive strategy	Standard primary PCI		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	358	190		
Units: number of participants	305	149		

Statistical analyses

Statistical analysis title	Succesfull reperfusion
Comparison groups	Standard primary PCI v Pharmaco-invasive strategy
Number of subjects included in analysis	548
Analysis specification	Pre-specified
Analysis type	other
P-value	= 0.05
Method	Chi-squared

Primary: Composite clinical efficacy endpoint: all cause death, shock, CHF and reinfarction

End point title	Composite clinical efficacy endpoint: all cause death, shock, CHF and reinfarction

End point description:

End point type	Primary

End point timeframe:

30 days

End point values	Pharmaco-invasive strategy	Standard primary PCI		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	401	203		
Units: number of participants	51	27		

Statistical analyses

Statistical analysis title	Relative risk
Comparison groups	Pharmaco-invasive strategy v Standard primary PCI
Number of subjects included in analysis	604
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.96
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.62
upper limit	1.48

Primary: Total stroke

End point title	Total stroke

End point description:

End point type	Primary

End point timeframe:

30 days

End point values	Pharmaco-invasive strategy	Standard primary PCI		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	400	203		
Units: number of participants	9	1		

Statistical analyses

Statistical analysis title	Relative risk
Comparison groups	Pharmaco-invasive strategy v Standard primary PCI
Number of subjects included in analysis	603
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	4.57
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.58
upper limit	35.8

Adverse events

Adverse events information[1]	
Timeframe for reporting adverse events: 30 days	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	19

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: a treshold of 5% was applied for non serious adverse events

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