Clinical trial results:
Epidural ropivacaine as part of a multimodal postoperative pain treatment following thoracolumbar spinal fusion surgery.

Summary

EudraCT number	2014-004713-91
Trial protocol	BE
Global end of trial date	06 August 2024

Results information

Result version number	v1 (current)
This version publication date	03 May 2025
First version publication date	03 May 2025
Summary attachment (see zip file)	Article_Tose (25-Tosi.pdf)

Trial information

Trial identification

Sponsor protocol code	ROPISPINE

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	UZ Brussel
Sponsor organisation address	Laarbeeklaan, Brussel, Belgium,
Public contact	Study Coordinator, UZ Brussel, virgini.vanbuggenhout@uzbrussel.be
Scientific contact	Study Coordinator, UZ Brussel, virgini.vanbuggenhout@uzbrussel.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	23 October 2019
Is this the analysis of the primary completion data?	Yes
Primary completion date	23 October 2019
Global end of trial reached?	Yes
Global end of trial date	06 August 2024
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The goal of this study is to determine if infusion with ropivacaine at a rate of 7 mL/h is an effective additional treatment for postoperative pain after thoracolumbar spinal fusion surgery.

Protection of trial subjects:

Patient safety was assessed during study condut. Diring srgery patient was followed by PI, anesthesiologist and surgery team. Afterwards they were followed up by medical staff. At the pacu they had to give pain scores every 10 minutes, in that pain and AE's could be assessed.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	15 December 2014
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Belgium: 33
Worldwide total number of subjects	33
EEA total number of subjects	33

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)	33
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Patients who were scheduled for thoracic or lumbar posterior interbody fusion surgery between december 2014 and December 2015 were included.

Pre-assignment

Screening details: -

Pre-assignment period milestones

Number of subjects started	33
Number of subjects completed	30

Pre-assignment subject non-completion reasons

Reason: Number of subjects	not the right premedication was given: 2
Reason: Number of subjects	problem during surgery, no epidural possible: 1

Period 1

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

Blinding implementation details:

Only PI is not blinded and prepares the medication to be given to the patient, everybody else in the theatre room is blinded. Block randomization was used. All patients scheduled for surgery on a certain day were randomized to the same group.

Arms

Are arms mutually exclusive?	Yes
Arm title	placebo group

Arm description: -

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

Dosage and administration details:

continuous infusion of 0.9% saline

Arm title	treatment group

Arm description: -

Arm type	Experimental
Investigational medicinal product name	ropivacaine
Investigational medicinal product code	ropivacaine
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Epidural use

Dosage and administration details:

continuous infusion of 0.2% ropivacaine during surgery

Notes:

[1] - The roles blinded appear to be inconsistent with a double blind trial.

Justification: Only the PI was not blinded in this study. Everybody else was blinded (patient, anesthesiologist, surgeon,...)

Number of subjects in period 1[2]	placebo group	treatment group
Started	14	16
Completed	14	16

Notes:

[2] - 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: 17 patients were included in the placebo group at first, however not the right premedication was given before surgery and for one patient placement of an epidural wasn't possible. Those 3 were excluded from the study. No data was used from them.

Baseline characteristics

Reporting groups	
Reporting group title	placebo group
Reporting group description: -	
Reporting group title	treatment group
Reporting group description: -	

Reporting group values	placebo group	treatment group	Total
Number of subjects	14	16	30
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)			0
Adolescents (12-17 years)			0
Adults (18-64 years)			0
From 65-84 years			0
85 years and over			0
Age continuous			
Units: years			
arithmetic mean	62	55	
standard deviation	± 16	± 18	-
Gender categorical			
Units: Subjects			
Female	7	8	15
Male	7	8	15
ASA class			
Units: Subjects			
ASA 1	3	4	7
ASA 2	9	10	19
ASA 3	2	2	4
Weight			
Units: kilogram(s)			
arithmetic mean	70	79.8	
standard deviation	± 12.7	± 18.6	-
Height			
Units: centimetre			
arithmetic mean	165.9	171.7	
standard deviation	± 7.7	± 11.7	-
BMI			
Units: kilogram(s)/square metre			
arithmetic mean	26.5	24.9	
standard deviation	± 3.7	± 10.2	-
preoperative VAS			

Units: pain score			
arithmetic mean	3	3.4	
standard deviation	± 3.1	± 2.8	-

End points

End points reporting groups	
Reporting group title	placebo group
Reporting group description: -	
Reporting group title	treatment group
Reporting group description: -	

Primary: VAS Score	
End point title	VAS Score
End point description:	
End point type	Primary
End point timeframe:	
VAS Score were taken at arrival at PACU and then every 10 minutes while still on PACU. VAS score was also measured on day of surgery (day 0), day 1 and day 2.	

End point values	placebo group	treatment group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	16		
Units: pain score				
arithmetic mean (standard deviation)				
First PACU	7.2 (± 3.7)	4.5 (± 3.9)		
mean PACU	5.7 (± 0.9)	3.6 (± 3)		
Day 0	5 (± 2.9)	3.5 (± 1.5)		
Day 1	2.8 (± 1.5)	2 (± 0.7)		
Day 2	2.1 (± 0.8)	1.7 (± 1.2)		

Statistical analyses

Statistical analysis title	VAS Score
Statistical analysis description:	
We aimed to detect a 40% reduction in VAS score in the treatment group as compared with the control group. We set type I error α = 0.05 (two-sided) and type II error b = 0.2. For statistical analysis SPSS Statistics® version 23 was used. The normality of the distribution was assessed using Kolmogorov-Smirnov test. The student T-test was used for analysing the differences between the two groups.	
Comparison groups	placebo group v treatment group
Number of subjects included in analysis	30
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	t-test, 1-sided
Parameter estimate	Mean difference (final values)

Confidence interval	
level	95 %
sides	1-sided

Primary: Supplemental opioid consumption

End point title	Supplemental opioid consumption

End point description:

End point type	Primary

End point timeframe:

supplemental opioid consumption was captured in the OR (mg sufentanyl) at the PACU (mg piritramide) and on day 0, day 1 and day 2 (mg oxycodone).

End point values	placebo group	treatment group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	16		
Units: milligram(s)				
arithmetic mean (standard deviation)				
OR	41.4 (± 14.2)	55.5 (± 23.5)		
PACU	14.8 (± 10.9)	9 (± 7.5)		
Day 0	10.5 (± 11.4)	6.9 (± 7.3)		
Day 1	11.4 (± 10.5)	6.8 (± 7.9)		
Day 2	11.8 (± 15.9)	6 (± 7.5)		

Statistical analyses

Statistical analysis title	opioid consumption

Statistical analysis description:

Assuming a standard deviation of 2, a minimum of 16 patients per group would be required.
We set type I error α = 0.05 (two-sided) and type II error b = 0.2. For statistical analysis SPSS Statistics® version 23 was used. The normality of the distribution
was assessed using the Kolmogorov-Smirnov test. The student T-test was used for analysing the differences between the two groups.

Comparison groups	treatment group v placebo group
Number of subjects included in analysis	30
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	t-test, 1-sided

Secondary: day of mobilization

End point title	day of mobilization

End point description:

End point type	Secondary

End point timeframe:

day of mobilization is the day patients started walking again after surgery.

End point values	placebo group	treatment group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	16		
Units: days				
arithmetic mean (standard deviation)				
Mobilization	1.5 (± 1)	0.8 (± 0.8)		

Statistical analyses

No statistical analyses for this end point

Secondary: Hospitalization

End point title	Hospitalization

End point description:

End point type	Secondary

End point timeframe:

length of stay of hospitalization

End point values	placebo group	treatment group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	16		
Units: days				
arithmetic mean (standard deviation)				
hospitalization	9.6 (± 5.6)	6.7 (± 3.9)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: Adverse events were captured as from time of signing the ICF till end of the hospitalization.	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	20

Reporting groups	
Reporting group title	placebo group
Reporting group description: -	
Reporting group title	treatment group
Reporting group description: -	

Serious adverse events	placebo group	treatment group	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 14 (0.00%)	0 / 16 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

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

Non-serious adverse events	placebo group	treatment group	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	5 / 14 (35.71%)	6 / 16 (37.50%)	
Nervous system disorders			
Paresthesia			
subjects affected / exposed	0 / 14 (0.00%)	3 / 16 (18.75%)	
occurrences (all)	0	3	
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	2 / 14 (14.29%)	1 / 16 (6.25%)	
occurrences (all)	2	1	
abdominal discomfort			
subjects affected / exposed	1 / 14 (7.14%)	0 / 16 (0.00%)	
occurrences (all)	0	0	
Constipation			

subjects affected / exposed	4 / 14 (28.57%)	4 / 16 (25.00%)	
occurrences (all)	4	4	
Respiratory, thoracic and mediastinal disorders			
respiratory depression			
subjects affected / exposed	1 / 14 (7.14%)	0 / 16 (0.00%)	
occurrences (all)	1	0	

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