Clinical trial results:
The Pectoral Nerve Block (PECBLOCK) for the Treatment of Pain After Breast Cancer Surgery.

Summary

EudraCT number	2013-002764-12
Trial protocol	FR
Global end of trial date	07 May 2015

Results information

Result version number	v1 (current)
This version publication date	07 May 2021
First version publication date	07 May 2021

Trial information

Trial identification

Sponsor protocol code	I12019

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01670448
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	University Hospital, Limoges
Sponsor organisation address	02 avenue martin Luther King, Limoges, France, 87042
Public contact	coordinator investigator, University Hospital, Limoges, +33 555056300, jeromemcros@yahoo.fr
Scientific contact	coordinator investigator, University Hospital, Limoges, +33 555056300, jeromemcros@yahoo.fr

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	31 December 2015
Is this the analysis of the primary completion data?	Yes
Primary completion date	27 April 2015
Global end of trial reached?	Yes
Global end of trial date	07 May 2015
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Estimate the analgesic efficiency of the pectoral block

Protection of trial subjects:

Patients are informed and an information note is issued. A consent is signed.
Patients are followed up to 7 days after the pectoral block

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 October 2013
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	France: 79
Country: Number of subjects enrolled	Canada: 49
Worldwide total number of subjects	128
EEA total number of subjects	79

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)	96
From 65 to 84 years	32
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

The pre-inclusion visit is provided by the doctor. The pre-inclusion visit takes place at the time of the anesthesia consultation.
the doctor informs the patient about the study and answers all her questions. The patient has a period of reflection until the day of the surgery. The day before of surgery (inclusion visit), consent is obtained.

Pre-assignment

Screening details:

patients are screened during staff meetings

Period 1

Period 1 title	inclusion
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Data analyst, Carer

Blinding implementation details:

The pharmacy will make sealed, masked lots, with patient numbers according to the randomization list. These lots will be sent to the care unit no later than the morning of inclusion.
A nurse not involved in patient care will prepare the product for the open study (physiological saline or bupivacaine), the product will then be sent to the doctor with patient labeling without the possibility of identifying the group.

Arms

Are arms mutually exclusive?	No
Arm title	Bupivacaine

Arm description:

PECBLOCK performed with bupivacaine

Arm type	Experimental
Investigational medicinal product name	bupivacaine
Investigational medicinal product code	N01BB01
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

All patients will have ultrasound guided pectoral block. Under general anesthesia and under sterile conditions, after ultrasound identification of the interpectoral space (between the pectoralis major and pectoralis minor muscles), a 22G and 50 mm needle will be inserted for the administration of 0.4 mL / kg of bupivacaine 0, 25% adrenaline (1/200,000) without exceeding 40 mL or de 0,4 mL/kg de NaCl 0,9%.
Patients weighing more than 100 kg will receive 40 mL of 0.25% bupivacaine adrenaline or 0.9% NaCl.

Arm title	Placebo

Arm description:

PECBLOCK performed with NaCl 0.9%

Arm type	Placebo
Investigational medicinal product name	NaCl 0.9%
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

All patients will have ultrasound guided pectoral block. Under general anesthesia and under sterile conditions, after ultrasound identification of the interpectoral space, a 22G and 50 mm needle will be inserted for the administration of 0.4 mL / kg of 0.9% NaCl.

Number of subjects in period 1	Bupivacaine	Placebo
Started	62	65
Completed	62	65

Period 2

Period 2 title	recovery room
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Data analyst, Carer

Arms

Are arms mutually exclusive?	No
Arm title	Bupivacaine

Arm description:

Active drug given through PECBLOCK in these patients.

Arm type	Experimental
Investigational medicinal product name	bupivacaine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

bupivacaïne 0,25% adrénalinée

Arm title	Placebo

Arm description:

Placebo drug given through PECBLOCK in these patients

Arm type	Placebo
Investigational medicinal product name	NaCl 0.9%
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:
NaCl 0.9%

Number of subjects in period 2	Bupivacaine	Placebo
Started	62	65
Completed	62	65

Period 3	
Period 3 title	first 24 hours post surgery
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Data analyst, Carer

Arms	
Are arms mutually exclusive?	Yes
Arm title	Bupivacaine

Arm description:
Active drug given through PECBLOCK in these patients.

Arm type	Experimental
Investigational medicinal product name	bupivacaine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:
Active drug given through PECBLOCK in these patients.

Arm title	Placebo

Arm description:
Placebo drug given through PECBLOCK in these patients

Arm type	Placebo
Investigational medicinal product name	NaCl 0.9%
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:
NaCl 0.9%

Number of subjects in period 3	Bupivacaine	Placebo
Started	62	65
Completed	62	65

Baseline characteristics

Reporting groups[1]	
Reporting group title	inclusion
Reporting group description: -	

Notes:

[1] - The number of subjects reported to be in the baseline period is not equal to the worldwide number of subjects enrolled in the trial. It is expected that these numbers will be the same.
Justification: a patient has withdrawn her consent

Reporting group values	inclusion	Total	
Number of subjects	127	127	
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)	95	95	
From 65-84 years	32	32	
85 years and over	0	0	
Age continuous Units: years			
median	60.5		
full range (min-max)	51 to 68	-	
Gender categorical			
FEMALE			
Units: Subjects			
Female	127	127	
Male	0	0	

Subject analysis sets	
Subject analysis set title	analgesic efficacy of the pectoral block
Subject analysis set type	Intention-to-treat

Subject analysis set description:

pain was assessed by a verbal simple numerical scale (ENS) 30 minutes after admission to the recovery room or just before morphine titration

Subject analysis set title	Assessment and comparison of pain scores at rest and on postop
Subject analysis set type	Intention-to-treat

Subject analysis set description:

Assessment and comparison of pain scores at rest and on postoperative mobilization

Subject analysis set title	Comparison of Sufentanil Consumption During Surgery
Subject analysis set type	Intention-to-treat

Subject analysis set description:

Comparison of Sufentanil Consumption During Surgery

Subject analysis set title	Comparison of morphine dose to recovery room
Subject analysis set type	Intention-to-treat

Subject analysis set description:

Comparison of morphine dose to recovery room

Reporting group values	analgesic efficacy of the pectoral block	Assessment and comparison of pain scores at rest and on postop	Comparison of Sufentanil Consumption During Surgery
Number of subjects	127	127	127
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)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	95	95	95
From 65-84 years	31	32	32
85 years and over	0	0	0
Age continuous Units: years			
median	60.5	60.5	60.5
full range (min-max)	51 to 68	51 to 68	51 to 68
Gender categorical			
FEMALE			
Units: Subjects			
Female	127	127	127
Male			

Reporting group values	Comparison of morphine dose to recovery room		
Number of subjects	127		
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)	95		
From 65-84 years	32		
85 years and over	0		
Age continuous			
Units: years			
median	60.5		
full range (min-max)	51 to 68		
Gender categorical			
FEMALE			
Units: Subjects			
Female	127		
Male			

End points

End points reporting groups

Reporting group title	Bupivacaine
Reporting group description: PECBLOCK performed with bupivacaine	
Reporting group title	Placebo
Reporting group description: PECBLOCK performed with NaCl 0.9%	
Reporting group title	Bupivacaine
Reporting group description: Active drug given through PECBLOCK in these patients.	
Reporting group title	Placebo
Reporting group description: Placebo drug given through PECBLOCK in these patients	
Reporting group title	Bupivacaine
Reporting group description: Active drug given through PECBLOCK in these patients.	
Reporting group title	Placebo
Reporting group description: Placebo drug given through PECBLOCK in these patients	
Subject analysis set title	analgesic efficacy of the pectoral block
Subject analysis set type	Intention-to-treat
Subject analysis set description: pain was assessed by a verbal simple numerical scale (ENS) 30 minutes after admission to the recovery room or just before morphine titration	
Subject analysis set title	Assessment and comparison of pain scores at rest and on postop
Subject analysis set type	Intention-to-treat
Subject analysis set description: Assessment and comparison of pain scores at rest and on postoperative mobilization	
Subject analysis set title	Comparison of Sufentanil Consumption During Surgery
Subject analysis set type	Intention-to-treat
Subject analysis set description: Comparison of Sufentanil Consumption During Surgery	
Subject analysis set title	Comparison of morphine dose to recovery room
Subject analysis set type	Intention-to-treat
Subject analysis set description: Comparison of morphine dose to recovery room	

Primary: Pain score at rest in the recovery room

End point title	Pain score at rest in the recovery room
End point description: Using a 0-10 verbal numerical scale where 0 is no pain and 10 the worst pain imaginable	
End point type	Primary
End point timeframe: 30 min after entering the recovery room	

End point values	Bupivacaine	Placebo	Bupivacaine	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	62	65	62	65
Units: 0-10 verbal numerical scale	62	65	62	65

End point values	Bupivacaine	Placebo	Assessment and comparison of pain scores at rest and on postop	
Subject group type	Reporting group	Reporting group	Subject analysis set	
Number of subjects analysed	62	65	127	
Units: 0-10 verbal numerical scale	62	65	127	

Statistical analyses

Statistical analysis title	end point 1
Comparison groups	Bupivacaine v Placebo v Bupivacaine v Placebo v Bupivacaine v Placebo v Assessment and comparison of pain scores at rest and on postop
Number of subjects included in analysis	508
Analysis specification	Post-hoc
Analysis type	superiority
P-value	< 0.0001
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	Mean difference (final values)
Point estimate	3
Confidence interval	
level	95 %
sides	2-sided
lower limit	1
upper limit	4
Variability estimate	Standard deviation
Dispersion value	0

Secondary: Total morphine consumption in the recovery room

End point title	Total morphine consumption in the recovery room

End point description:

When surgery is over and the patient is brought to the recovery room, the total morphine consumption in mg used in the recovery (for pain less than 4/10) is recorded

End point type	Secondary

End point timeframe:

in the recovery room before discharge (after 1 h on average)

End point values	Bupivacaine	Placebo	Bupivacaine	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	62	65	62	65
Units: mg				
number (not applicable)	62	65	62	65

End point values	Bupivacaine	Placebo	Comparison of morphine dose to recovery room	
Subject group type	Reporting group	Reporting group	Subject analysis set	
Number of subjects analysed	62	65	127	
Units: mg				
number (not applicable)	62	65	127	

Statistical analyses

Statistical analysis title	end point 2
Comparison groups	Bupivacaine v Placebo v Bupivacaine v Placebo v Bupivacaine v Placebo v Comparison of morphine dose to recovery room
Number of subjects included in analysis	508
Analysis specification	Post-hoc
Analysis type	superiority
P-value	< 0.0001
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	Odds ratio (OR)
Point estimate	3
Confidence interval	
level	95 %
sides	2-sided
lower limit	1
upper limit	6
Variability estimate	Standard deviation
Dispersion value	0

Secondary: Total sufentanil consumption during surgery

End point title	Total sufentanil consumption during surgery

End point description:

When surgery is over, 1-2 h on average depending if it is a tumorectomy or a mastectomy, the total sufentanil consumption in micrograms during surgery is recorded.

End point type	Secondary

End point timeframe:
at the end of surgery (1-2 h on average)

End point values	Bupivacaine	Placebo	Bupivacaine	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	62	65	62	65
Units: microcurie(s)/microgram				
number (not applicable)	62	65	62	65

End point values	Bupivacaine	Placebo	Comparison of Sufentanil Consumption During Surgery	
Subject group type	Reporting group	Reporting group	Subject analysis set	
Number of subjects analysed	62	65	127	
Units: microcurie(s)/microgram				
number (not applicable)	62	65	127	

Statistical analyses

Statistical analysis title	end point 3
Comparison groups	Bupivacaine v Placebo v Bupivacaine v Placebo v Bupivacaine v Placebo v Comparison of Sufentanil Consumption During Surgery
Number of subjects included in analysis	508
Analysis specification	Post-hoc
Analysis type	superiority
P-value	< 0.0001
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	Mean difference (net)
Point estimate	20
Confidence interval	
level	95 %
sides	2-sided
lower limit	15
upper limit	23
Variability estimate	Standard deviation
Dispersion value	0

Adverse events

Adverse events information	
Timeframe for reporting adverse events: post intervention	
Assessment type	Non-systematic
Dictionary used	
Dictionary name	MedDRA
Dictionary version	18.1
Reporting groups	
Reporting group title	Pacebo
Reporting group description: -	
Reporting group title	bupivacaïne
Reporting group description: -	

Serious adverse events	Pacebo	bupivacaïne	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 65 (0.00%)	0 / 62 (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: 4 %

Non-serious adverse events	Pacebo	bupivacaïne	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	1 / 65 (1.54%)	1 / 62 (1.61%)	
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	1 / 65 (1.54%)	1 / 62 (1.61%)	
occurrences (all)	1	1	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
18 December 2013	Modification of the non-inclusion criteria: - Patient already operated on the ipsilateral breast in order not to recruit a patient who has already undergone an operation on the same breast - Bilateral surgery: addition of this non-inclusion criteria in order not to bias the scores on pain

Notes:

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/29672368