Clinical trial results:
The FINOF(Femoral Nerve-Block Intervention in Neck Of Femur Fracture) Study

Summary

EudraCT number	2010-023871-25
Trial protocol	GB
Global end of trial date	05 January 2015

Results information

Result version number	v1 (current)
This version publication date	06 January 2017
First version publication date	06 January 2017
Summary attachment (see zip file)	End of Study Report (10HC005_End-of-Study-Report_FINOF_2010-023871-25.pdf)

Trial information

Trial identification

Sponsor protocol code	2010-023871-25

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Nottingham University Hospitals NHS Trust
Sponsor organisation address	Derby Road, Nottingham, United Kingdom, NG7 2UH
Public contact	Maria Koufali, Nottingham Univeristy Hospitals NHS Trust, researchsponsor@nuh.nhs.uk
Scientific contact	Maria Koufali, Nottingham Univeristy Hospitals NHS Trust, researchsponsor@nuh.nhs.uk

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	05 January 2015
Is this the analysis of the primary completion data?	Yes
Primary completion date	05 January 2015
Global end of trial reached?	Yes
Global end of trial date	05 January 2015
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The question to be asked is whether femoral nerve blockade, administered in the acute and early post operative phase to elderly hip fracture patients, will control pain,improve early rehabilitation and reduce opioid associated complications.

Protection of trial subjects:

The study received ethical approval on 28/Jan/2011 from Nottingham Research Ethics Committee 2 and by the MHRA on 21/Apr/2011.

To facilitate rapid analgesia patients were consented as a two stage procedure. Patients were provided with the patient information sheet and the study was discussed. Initial verbal consent was obtained in the ED by the attending anaesthetist. This was witnessed by a member of the research team and documented. Full written consent was obtained 48 hours after verbal consent or as close as this as possible. Patients who developed confusion after study entry and were unable to give written cosnent had proxy consent sought from the lsited next of kin or contact person. If no primary contact person could be found the orthopaedic consultant in charge of the patients care was approached. Once patients had regained capacity, formal written consent was sought as per usual study procedure.

Participants were monitored for AEs and SAEs and these were reported as per the sponsor SOP.

Background therapy:

In addition to the IMP (Femoral Nerve block) the active group received regular paracetamol with oral morphine for breakthrough analgesia. They also had a femoral nerve catheter which infused 5mls/hr of 0.2% ropivacaine via an elastomeric pump.

In addition to the control treatment, the control group received regular paracetamol and regular tramadol with oral morphine solution every 2 hours as required for breakthrough pain.

Evidence for comparator: -

Actual start date of recruitment	06 January 2012
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	United Kingdom: 111
Worldwide total number of subjects	111
EEA total number of subjects	111

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)	0
From 65 to 84 years	60
85 years and over	51

Subject disposition

Recruitment

Recruitment details:

Recruitment started on 6th Jan 2011 and the last participant was screened on 1st Dec 2014

Pre-assignment

Screening details:

Patients presenting with history suggestive of proximal femoral fracture were attended and inclusion/exclusion criteria were checked. If patients were eligible then initial verbal consent was obtained.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	Femoral Nerve Block

Arm description:

Femoral nerve block followed by insertion of a femoral catheter and continuous femoral nerve block

Arm type	Experimental
Investigational medicinal product name	Levo-bupivacaine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection/infusion
Routes of administration	Route of administration not applicable

Dosage and administration details:

0.5 ml/kg-1 of 0.25% levobupivacaine up to 30 ml maximum volume

Investigational medicinal product name	Ropivacaine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Perineural use

Dosage and administration details:

5ml/hr 0.2% ropivacaine for up to 48 hours post-operatively

Arm title	Control

Arm description:

Standard analgesic care - intravenous morphine titrated to a score of 5 or less at rest according to the 10 point numerical pain rating scale described below.

Arm type	Active comparator
Investigational medicinal product name	Morphine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection/infusion
Routes of administration	Intravenous drip use

Dosage and administration details:

Intravenous morphine titrated to a score of 5 or less at rest according to the 10 point numerical pain rating scale described below.

Number of subjects in period 1	Femoral Nerve Block	Control
Started	55	56
Post op- Follow Up	55	56
Completed	55	56

Baseline characteristics

Reporting groups	
Reporting group title	Femoral Nerve Block
Reporting group description:	
Femoral nerve block followed by insertion of a femoral catheter and continuous femoral nerve block	
Reporting group title	Control
Reporting group description:	
Standard analgesic care - intravenous morphine titrated to a score of 5 or less at rest according to the 10 point numerical pain rating scale described below.	

Reporting group values	Femoral Nerve Block	Control	Total
Number of subjects	55	56	111
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			
median	83	84	
full range (min-max)	73 to 93	71 to 97	-
Gender categorical			
Units: Subjects			
Female	45	44	89
Male	10	12	22
Body Mass Index			
Units: kg/m2			
arithmetic mean	23.1	23.9	
full range (min-max)	14 to 35	16 to 32	-

Subject analysis sets	
Subject analysis set title	Per protocol
Subject analysis set type	Per protocol
Subject analysis set description:	
Full primary outcome data was collected on a total of 111 patients (55 active, 56 control).	

Reporting group values	Per protocol		
Number of subjects	111		

Age categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years median full range (min-max)			
Gender categorical Units: Subjects			
Female	89		
Male	22		
Body Mass Index Units: kg/m2 arithmetic mean full range (min-max)	 14 to 35		

End points

End points reporting groups

Reporting group title	Femoral Nerve Block
Reporting group description:	
Femoral nerve block followed by insertion of a femoral catheter and continuous femoral nerve block	
Reporting group title	Control
Reporting group description:	
Standard analgesic care - intravenous morphine titrated to a score of 5 or less at rest according to the 10 point numerical pain rating scale described below.	
Subject analysis set title	Per protocol
Subject analysis set type	Per protocol
Subject analysis set description:	
Full primary outcome data was collected on a total of 111 patients (55 active, 56 control).	

Primary: Cumulative Ambulation Score

End point title	Cumulative Ambulation Score
End point description:	
End point type	Primary
End point timeframe:	
Three days, post-operative	

End point values	Femoral Nerve Block	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	55	56		
Units: Score	7	6		

Statistical analyses

Statistical analysis title	p-value
Comparison groups	Femoral Nerve Block v Control
Number of subjects included in analysis	111
Analysis specification	Pre-specified
Analysis type	equivalence
P-value	= 0.76
Method	Wilcoxon (Mann-Whitney)

Primary: Cumulative Dynamic pain score

End point title	Cumulative Dynamic pain score
End point description:	

End point type	Primary
End point timeframe: three days post-operative	

End point values	Femoral Nerve Block	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	55	56		
Units: score	20	20		

Statistical analyses

Statistical analysis title	p-value
Comparison groups	Femoral Nerve Block v Control
Number of subjects included in analysis	111
Analysis specification	Pre-specified
Analysis type	equivalence
P-value	= 0.505
Method	Wilcoxon (Mann-Whitney)

Adverse events

Adverse events information

Timeframe for reporting adverse events:

All AEs occurring during the study observed by the investigator or reported by the participant, whether or not attributed to study medication, will be recorded on the CRF.

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	4

Reporting groups

Reporting group title	Control
Reporting group description: -	
Reporting group title	Active

Reporting group description: -

Serious adverse events	Control	Active	
Total subjects affected by serious adverse events			
subjects affected / exposed	14 / 56 (25.00%)	9 / 55 (16.36%)	
number of deaths (all causes)	2	4	
number of deaths resulting from adverse events	0	0	
Vascular disorders			
stroke			
subjects affected / exposed	1 / 56 (1.79%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Cardio-respiratory arrest			
subjects affected / exposed	1 / 56 (1.79%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Atrial fibrillation			
subjects affected / exposed	0 / 56 (0.00%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac arrest			

subjects affected / exposed	0 / 56 (0.00%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
Myocardial infarction			
subjects affected / exposed	1 / 56 (1.79%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hypotension			
subjects affected / exposed	2 / 56 (3.57%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
Multi-organ disorder			
subjects affected / exposed	1 / 56 (1.79%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 1	0 / 1	
deaths causally related to treatment / all	0 / 1	0 / 1	
Respiratory, thoracic and mediastinal disorders			
Pneumonia			
subjects affected / exposed	2 / 56 (3.57%)	2 / 55 (3.64%)	
occurrences causally related to treatment / all	0 / 2	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 1	
Fat embolism			
subjects affected / exposed	0 / 56 (0.00%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hepatobiliary disorders			
Jaundice			
subjects affected / exposed	0 / 56 (0.00%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
Acute kidney injury			

subjects affected / exposed	3 / 56 (5.36%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 3	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Confusional state			
subjects affected / exposed	3 / 56 (5.36%)	1 / 55 (1.82%)	
occurrences causally related to treatment / all	0 / 3	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Chest infection			
subjects affected / exposed	1 / 56 (1.79%)	2 / 55 (3.64%)	
occurrences causally related to treatment / all	0 / 1	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 1	
Infection			
subjects affected / exposed	1 / 56 (1.79%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Anaemia			
subjects affected / exposed	1 / 56 (1.79%)	0 / 55 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Control	Active	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	36 / 56 (64.29%)	30 / 55 (54.55%)	
Gastrointestinal disorders			
Constipation			
alternative assessment type: Systematic			
subjects affected / exposed	30 / 56 (53.57%)	25 / 55 (45.45%)	
occurrences (all)	30	25	
Nausea			
alternative assessment type: Systematic			

subjects affected / exposed occurrences (all)	6 / 56 (10.71%) 6	5 / 55 (9.09%) 5	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
03 May 2011	1) Use of pump changed to continue for 48 hours after operation 2) Additional block assessments to be performed at 60 min and 180 min post operatively 3) Dynamic pain assessments clarified; to be performed at 30 min, 60 min and 180 min post block 4) Clarification that a continuous infusion of local anaesthetic will be given for 48 hours post operatively
21 December 2011	The type of pump changed from Accufusor to Elastomeric to allow generic pumps.
27 September 2013	1) Follow up duration amended to 30(±5) days to give more flexibility 2) Clarification that cumulative dynamic pain scores are performed preoperatively (at 30 mins, 180 mins and following the initial femoral nerve block) 3) Changed to state that daily calorific intake and bowels (frequency and type) are not collected at pre-op 4) Assessment of nausea and vomiting clarified to ensure it matches the actual data collected and scoring system used in the CRF 5) Other typographical changes and changes to timelines. 6) Clarification of duration of catheter insertion and use of Oramorph which is standard practice on wards.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

Not all data was available to the results uploader so although 141 participants were enrolled, data from withdrawn patients has not been included in the database, therefore some information has been omitted for validation purposes.

Notes: