Clinical trial results:
Prospective study of 18F-RGD PET-CT in assessment of response to antiangiogenic treatment in patients with renal cancer and comparison with perfusion CT

Summary

EudraCT number	2011-002833-20
Trial protocol	GB
Global end of trial date	03 November 2015

Results information

Result version number	v1 (current)
This version publication date	12 November 2016
First version publication date	12 November 2016

Trial information

Trial identification

Sponsor protocol code	EP-TSC-663

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01492192
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Oxford University Hospitals NHS Foundation Trust
Sponsor organisation address	Churchill Hospital, Oxford, United Kingdom, OX37LJ
Public contact	Trial Administration Team, The Early Phase Research Hub, Dept Oncology, 44 1865235312, earlyphasehub@oncology.ox.ac.uk
Scientific contact	Trial Administration Team, The Early Phase Research Hub, Dept Oncology, 44 1865235312, earlyphasehub@oncology.ox.ac.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	22 December 2014
Is this the analysis of the primary completion data?	Yes
Primary completion date	22 December 2014
Global end of trial reached?	Yes
Global end of trial date	03 November 2015
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To evaluate whether changes of uptake on 18F-RGD PET-CT before, during and after anti-angiogenic therapy are associated with tumour response in patients with cancer.

Protection of trial subjects:

Since the adverse event profile of Fluciclatide (18F) Injection has not yet been fully established in humans, safety was monitored closely in this study given the small risk of anaphylaxis. Patients were observed for an hour following 18F injection for: Physical examination; blood pressure and pulse.

Background therapy:

Patients will be given a Tyrosine Kinase Inhibitor (TKI) as per standard of care for their metastatic renal cell cancer (RCC) TKI to be given as per the current cancer network treatment protocol. The most commonly prescribed TKI for metastatic RCC is sunitinib. Other TKIs may be used for the patient to participate..

Sunitinib is typically taken orally at a dosage of 50mg once daily for 4 consecutive weeks with a 2-week rest period (that is, a complete treatment cycle of 6 weeks). Participants will be treated for 3 cycles. If significant progression is not demonstrated then patients will have continuous therapy (with restaging every 3 cycles) of sunitinib until significant progression or death.

Evidence for comparator:

Not applicable

Actual start date of recruitment	03 August 2012
Long term follow-up planned	Yes
Long term follow-up rationale	Scientific research
Long term follow-up duration	12 Months
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United Kingdom: 10
Worldwide total number of subjects	10
EEA total number of subjects	10

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)	3
From 65 to 84 years	7
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Patients were recruited between 08May 2013 and 30Sept2015 from a single site in the UK.

Pre-assignment

Screening details:

22 patients were screened and twelve declined.

Period 1

Period 1 title	Overall Trial (overall period)
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	Overall trial

Arm description:

All trial subjects

Arm type	Experimental
Investigational medicinal product name	18F Fluciclatide
Investigational medicinal product code	AH111585
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intravenous use

Dosage and administration details:

Given as a single bolus dose given over 20 seconds, on three occasions for three separate PET scans.
Total dose 20 µg microgram(s)

Number of subjects in period 1	Overall trial
Started	10
Completed	10

Baseline characteristics

Reporting groups	
Reporting group title	Overall Trial

Reporting group description: -

Reporting group values	Overall Trial	Total	
Number of subjects	10	10	
Age categorical Units: Subjects			
Adults (18-64 years)	3	3	
From 65-84 years	7	7	
Gender categorical Units: Subjects			
Female	1	1	
Male	9	9	

End points

End points reporting groups

Reporting group title	Overall trial
Reporting group description:	
All trial subjects	

Primary: Correlation between tumour response to TKI therapy and change in SUVmax from baseline

End point title	Correlation between tumour response to TKI therapy and change in SUVmax from baseline[1]

End point description:

The null hypothesis assumed no correlation between change in SUVmax and tumour response; H0: r=0; where r=Pearson's correlation coefficient. To assess the primary endpoint of study volume and SUVpeak measurements of the tumour deposits were used. SUVpeak was chosen over SUVmax as it is more accurate. Volume of the lesions was calculated as: Volume=4/3πxyz (where x,y and z are the dimensions of tumour deposits in orthogonal planes). Change in volume and SUVpeak between scans were determined percentages. The percentage change for each patient was calculated as an average of the target and non-target lesions. Percentage changes were correlated using a Pearson's correlation. SUVpeak change between baseline and 2nd PET-CT scan had a significant correlation with change in volume between the baseline and both the 2nd and 3rd PET-CT scans (R=0.66 P=0.04 and R=0.67, P=0.03, respectively) No correlation demonstrated between change in SUVpeak at baseline and 3rd PET-CT scans and volume changes.

End point type	Primary

End point timeframe:

Changes in tumour uptake (% change in SUVmax) of 18F between baseline scan and second scan after 4 weeks TKI treatment.

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: This is a single arm study with no comparator hence statistical analysis cannot be completed

End point values	Overall trial			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: Tumour volume in mm				
number (not applicable)	10			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Safety reporting period was for 24 hours from time of administration of the fluciclatide tracer for each 18F PET-CT scan.

Assessment type	Systematic

Dictionary used

Dictionary name	NCI CTCAE
Dictionary version	4

Reporting groups

Reporting group title	Overall Trial

Reporting group description: -

Serious adverse events	Overall Trial		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 10 (0.00%)		
number of deaths (all causes)	4		
number of deaths resulting from adverse events	0		

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

Non-serious adverse events	Overall Trial		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	3 / 10 (30.00%)		
Gastrointestinal disorders			
Vomiting			
subjects affected / exposed	1 / 10 (10.00%)		
occurrences (all)	1		
Respiratory, thoracic and mediastinal disorders			
Cough			
subjects affected / exposed	1 / 10 (10.00%)		
occurrences (all)	1		
Pain on cough			
subjects affected / exposed	1 / 10 (10.00%)		
occurrences (all)	1		
Psychiatric disorders			

Sleep disorder subjects affected / exposed occurrences (all)	1 / 10 (10.00%) 1		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
29 September 2014	Substantial amendment SA01 to update the Investigator Brochure used for Reference Safety Information

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.

The trial failed to recruit the 40-50 patients required to achieve statistical significance and hence is significantly under powered.

Notes: