



Clinical trial results:

Single arm NCRI feasibility study of CHOP in combination with Ofatumumab in induction and maintenance for patients with newly diagnosed Richter's Syndrome

Summary

EudraCT number	2009-016459-23
Trial protocol	GB
Global end of trial date	19 April 2016

Results information

Result version number	v1
This version publication date	10 May 2017
First version publication date	10 May 2017

Trial information

Trial identification

Sponsor protocol code	OCTO_018
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Additional study identifiers

ISRCTN number	ISRCTN88860946
ClinicalTrials.gov id (NCT number)	NCT01171378
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	University of Oxford
Sponsor organisation address	Joint Research Office, Block 60, Churchill Hospital, Old Road, Oxford, United Kingdom, OX3 7LE
Public contact	Heather House, University of Oxford, +44 1865 572245, ctrg@admin.ox.ac.uk
Scientific contact	Heather House, University of Oxford, +44 1865 572245, ctrg@admin.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	02 February 2015
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 February 2015
Global end of trial reached?	Yes
Global end of trial date	19 April 2016
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective is to determine objective response to ofatumumab plus CHOP at week 13, week 20 and week 72 as measured from start of treatment according to the Revised Response Criteria for Malignant Lymphoma. In other words, the purpose of the trial is to find out if the addition of Ofatumumab to standard chemotherapy treatment is better (more patients living longer) than the standard chemotherapy alone.

Protection of trial subjects:

The trial received ethical and regulatory approval, and was run in compliance with the Medicines for Human Use (Clinical Trials) Regulations 2004, and amendments thereafter, the guidelines for Good Clinical Practice, and the applicable policies of the Sponsor, the University of Oxford. Together, these regulations implement the ethical principles of the Declaration of Helsinki (1996) and the regulatory requirements for clinical trials of an investigational medicinal product as set out in the European Union (EU) Directive.

Background therapy:

As well as Ofatumumab, all patients will be treated with up to a maximum of six three-weekly cycles of CHOP chemotherapy. This consists of: cyclophosphamide 750 mg/m² intravenous (iv) bolus, doxorubicin 50 mg/m² iv bolus, vincristine 1.4 mg/m² (maximum 2 mg or 1 mg in patients over 70 years old) iv infusion in 50 ml sodium chloride 0.9% over 10 minutes, prednisolone 40 mg/m² orally od, on day one and prednisolone 40 mg/ m² orally od on days 2–5 of each cycle. CHOP chemotherapy is not regarded as an IMP as it is standard care and all patients will be treated the same.

Evidence for comparator:

No comparator used - single arm study.

Actual start date of recruitment	27 April 2011
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	United Kingdom: 43
Worldwide total number of subjects	43
EEA total number of subjects	43

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)	19
From 65 to 84 years	21
85 years and over	3

Subject disposition

Recruitment

Recruitment details:

43 patients were recruited across 10 active sites in UK. The first patient was recruited on 05May2011 and the last patient was recruited on 01Dec2014.

Pre-assignment

Screening details:

Screened 48 patients. Eligible if >18, ECOG PS 0-3, known diagnosis of B-CLL and newly diagnosed, untreated and biopsy proven DLBCL Richter's transformation according to WHO classification. Not eligible if previously treated with anthracycline-containing treatment for DLBCL within six months, or have central nervous system involvement with RS/B-CLL

Period 1

Period 1 title	Baseline
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	Baseline
Arm description:	
Baseline period	
Arm type	Experimental
Investigational medicinal product name	Ofatumumab
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Ofatumumab will be infused intravenously on day 1 (300 mg), day 8 (1000 mg) and day 15 (1000mg) in the first cycle, followed by infusions every 3 weeks of 1000 mg on the first day of each cycle for a total of 6 cycles.

Number of subjects in period 1^[1]	Baseline
Started	37
Completed	37

Notes:

[1] - 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: 43 patients were enrolled in the trial, but only 37 patients were found to be evaluable, and hence the number in the baseline period is the number of evaluable patients.

Period 2

Period 2 title	Induction
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	Ofatumumab + CHOP
Arm description: -	
Arm type	Experimental
Investigational medicinal product name	Ofatumumab
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Ofatumumab will be infused intravenously on day 1 (300 mg), day 8 (1000 mg) and day 15 (1000mg) in the first cycle, followed by infusions every 3 weeks of 1000 mg on the first day of each cycle for a total of 6 cycles.

Number of subjects in period 2	Ofatumumab + CHOP
Started	37
Completed	37

Period 3

Period 3 title	Maintenance
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	Ofatumumab + CHOP
Arm description: -	
Arm type	Experimental
Investigational medicinal product name	Ofatumumab
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Ofatumumab will be infused intravenously on day 1 (300 mg), day 8 (1000 mg) and day 15 (1000mg) in the first cycle, followed by infusions every 3 weeks of 1000 mg on the first day of each cycle for a total of 6 cycles.

Number of subjects in period 3	Ofatumumab + CHOP
Started	37
Completed	37

Baseline characteristics

Reporting groups

Reporting group title	Baseline
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Reporting group description: -

Reporting group values	Baseline	Total	
Number of subjects	37	37	
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)	18	18	
From 65-84 years	16	16	
85 years and over	3	3	
Age continuous			
Units: years			
arithmetic mean	66.3		
standard deviation	± 11	-	
Gender categorical			
Units: Subjects			
Female	11	11	
Male	26	26	
ECOG Performance Status			
Eastern Cooperative Oncology Group (ECOG) Performance Status: Activity Performance Description			
Units: Subjects			
Score 0	17	17	
Score 1	12	12	
Score 2	4	4	
Score 3	4	4	
Ann Arbour Staging			
Ann Arbour Staging (DBCL criteria)			
Units: Subjects			
Not assessed/documented	1	1	
Stage I	6	6	
Stage II	6	6	
Stage III	15	15	
Stage IV	9	9	
Rai Staging			
Units: Subjects			
Stage 0	11	11	
Stage I	11	11	
Stage II	9	9	

Stage III	3	3	
Stage IV	2	2	
Not assessed/documented	1	1	
Binet Staging			
Units: Subjects			
Clinical stage A	19	19	
Clinical stage B	12	12	
Clinical stage C	6	6	
B-symptoms history			
History of constitutional symptoms (B-symptoms):			
o Experience of night sweats (without signs of infection)			
o Unexplained, unintentional weight loss > 10% within the previous 6 months			
o Experience of extreme fatigue			
o Recurrent, unexplained fever of greater than 38°C or 100.5°F for 2 weeks			
Units: Subjects			
Yes	22	22	
No	15	15	
Platelet Count			
Units: Subjects			
< 100 x 10 ⁹ /l	10	10	
>100 x 10 ⁹ /l	27	27	
Bulk in lymph node over 5 cm			
Units: Subjects			
Yes	18	18	
No	19	19	
Previous treatments			
Previous treatments of B-CLL			
Units: Subjects			
None	17	17	
One	12	12	
Two or more	8	8	

Subject analysis sets

Subject analysis set title	Baseline
Subject analysis set type	Full analysis
Subject analysis set description:	
All evaluable patients have baseline characteristics available.	
Subject analysis set title	Evaluable patients
Subject analysis set type	Intention-to-treat
Subject analysis set description:	
All patients recruited who received at least one full cycle of CHOP-O and had a response assessment by either clinical examination or CT scan.	

Reporting group values	Baseline	Evaluable patients	
Number of subjects	37	37	
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 arithmetic mean standard deviation	±	±	
Gender categorical Units: Subjects			
Female Male			
ECOG Performance Status			
Eastern Cooperative Oncology Group (ECOG) Performance Status: Activity Performance Description			
Units: Subjects			
Score 0	17		
Score 1	12		
Score 2	4		
Score 3	4		
Ann Arbour Staging			
Ann Arbour Staging (DBCL criteria)			
Units: Subjects			
Not assessed/documented	1		
Stage I	6		
Stage II	6		
Stage III	15		
Stage IV	9		
Rai Staging			
Units: Subjects			
Stage 0	11		
Stage I	11		
Stage II	9		
Stage III	3		
Stage IV	2		
Not assessed/documented	1		
Binet Staging			
Units: Subjects			
Clinical stage A	19		
Clinical stage B	12		
Clinical stage C	6		
B-symptoms history			
History of constitutional symptoms (B-symptoms): o Experience of night sweats (without signs of infection) o Unexplained, unintentional weight loss > 10% within the previous 6 months o Experience of extreme fatigue o Recurrent, unexplained fever of greater than 38°C or 100.5°F for 2 weeks			
Units: Subjects			
Yes	22		
No	15		
Platelet Count			

Units: Subjects			
< 100 x 10 ⁹ /l	10		
>100 x 10 ⁹ /l	27		
Bulk in lymph node over 5 cm			
Units: Subjects			
Yes	18		
No	19		
Previous treatments			
Previous treatments of B-CLL			
Units: Subjects			
None	17		
One	12		
Two or more	8		

End points

End points reporting groups

Reporting group title	Baseline
Reporting group description:	
Baseline period	
Reporting group title	Ofatumumab + CHOP
Reporting group description: -	
Reporting group title	Ofatumumab + CHOP
Reporting group description: -	
Subject analysis set title	Baseline
Subject analysis set type	Full analysis
Subject analysis set description:	
All evaluable patients have baseline characteristics available.	
Subject analysis set title	Evaluable patients
Subject analysis set type	Intention-to-treat
Subject analysis set description:	
All patients recruited who received at least one full cycle of CHOP-O and had a response assessment by either clinical examination or CT scan.	

Primary: Objective response rate

End point title	Objective response rate ^[1]
End point description:	
The primary objective of the trial is to determine the objective response rate (ORR) of ofatumumab plus CHOP according to the Revised Response Criteria for Malignant Lymphoma (Cheson criteria) as measured after induction. Patients will be classified as responders/non-responders as follows: complete remission (CR), partial remission (PR) or nodular partial remission (nPR) as responders while stable disease (SD) and progressive disease (PD) as non-responders.	
End point type	Primary
End point timeframe:	
After cycle 6, or if the patient withdraws from treatment earlier than cycle 6, their response recorded at withdrawal will be used. Or if an assessment is not performed at withdrawal, the latest disease response is used (i.e. post cycle 4)	

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: No formal comparison of the primary end point has been made as there is only one treatment arm.

End point values	Evaluable patients			
Subject group type	Subject analysis set			
Number of subjects analysed	37			
Units: Patients				
Responders	17			
Non-responders	20			

Statistical analyses

No statistical analyses for this end point

Secondary: Overall Survival

End point title	Overall Survival
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End point description:

End point type	Secondary
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End point timeframe:

Length of survival is defined in months as the time from entry into the study until death from any cause. Those who are not observed to die during the course of the trial will be censored at their last known follow-up date.

End point values	Evaluable patients			
Subject group type	Subject analysis set			
Number of subjects analysed	37			
Units: Months				
median (confidence interval 95%)	11.4 (6.4 to 25.6)			

Statistical analyses

No statistical analyses for this end point

Secondary: Progression Free Survival

End point title	Progression Free Survival
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End point description:

End point type	Secondary
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End point timeframe:

Length of survival is defined in months as the time from entry into the study until lymphoma progression or death from any cause. Those who are not observed to progress or die during the course of the trial will be censored at their last known progres

End point values	Evaluable patients			
Subject group type	Subject analysis set			
Number of subjects analysed	37			
Units: Months				
median (confidence interval 95%)	6.2 (4.9 to 14)			

Statistical analyses

No statistical analyses for this end point

Secondary: Constitutional symptoms (B-symptoms)

End point title	Constitutional symptoms (B-symptoms)
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End point description:

End point type	Secondary
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End point timeframe:

Baseline.

End point values	Evaluable patients			
Subject group type	Subject analysis set			
Number of subjects analysed	37			
Units: Patients				
Experience of night sweats	15			
Unexplained weight loss >10% within last 6 months	9			
Experience of extreme fatigue	6			
Recurrent, unexplained fever >38 deg's for 2 weeks	4			

Statistical analyses

No statistical analyses for this end point

Secondary: ECOG Performance Status

End point title	ECOG Performance Status
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End point description:

End point type	Secondary
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End point timeframe:

Post cycle 6

End point values	Evaluable patients			
Subject group type	Subject analysis set			
Number of subjects analysed	37			
Units: Patients				
Zero	10			
One	6			
Two	0			
Three	0			
Not assessed/documentated	3			
Withdrew prior to assessment	18			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Adverse Event Monitoring starts from the time the patient gives informed consent, unless specified otherwise, and until they complete the trial.

Adverse event reporting additional description:

Only AEs of CTCAE grade 3 or grade 4 are reported here.

Assessment type	Systematic
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Dictionary used

Dictionary name	NCI-CTCAE
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Dictionary version	4.0
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Reporting groups

Reporting group title	Safety population
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Reporting group description:

All patients who received at least one dose of the trial treatment, including those deemed not evaluable for the primary outcome.

Serious adverse events	Safety population		
Total subjects affected by serious adverse events			
subjects affected / exposed	36 / 43 (83.72%)		
number of deaths (all causes)	28		
number of deaths resulting from adverse events	0		
Investigations			
Neutrophil count decreased			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	3 / 4		
deaths causally related to treatment / all	0 / 0		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Soft tissue mass	Additional description: Soft tissue paravertebral mass (necrotic tumour)		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Adenocarcinoma of colon	Additional description: Adenocarcinoma - Sigmoid Colon		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Injury, poisoning and procedural complications			

Fracture			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Vascular disorders			
Thromboembolic event			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 1		
Cardiac disorders			
Cardiac arrest			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 1		
Nervous system disorders			
Ischaemia	Additional description: Ischaemia cerebrovascular		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Memory impairment			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Blood and lymphatic system disorders			
Anaemia			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	1 / 3		
deaths causally related to treatment / all	0 / 0		
Neutropenia			
subjects affected / exposed	3 / 43 (6.98%)		
occurrences causally related to treatment / all	2 / 3		
deaths causally related to treatment / all	0 / 0		
Febrile neutropenia			

subjects affected / exposed	7 / 43 (16.28%)		
occurrences causally related to treatment / all	8 / 9		
deaths causally related to treatment / all	0 / 0		
General disorders and administration site conditions			
Unwell	Additional description: Patient looked generally unwell		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Pyrexia			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Fatigue			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Fever			
subjects affected / exposed	4 / 43 (9.30%)		
occurrences causally related to treatment / all	4 / 7		
deaths causally related to treatment / all	0 / 0		
Disease progression			
subjects affected / exposed	7 / 43 (16.28%)		
occurrences causally related to treatment / all	0 / 7		
deaths causally related to treatment / all	0 / 7		
Infusion related reaction			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Infusion site extravasation			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Gastrointestinal disorders			

Lower gastrointestinal haemorrhage subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Gastrointestinal disorder subjects affected / exposed	1 / 43 (2.33%)	Additional description: Patient unwell overnight, D&V, stomach pains.	
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Abdominal pain subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Colonic perforation subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Respiratory, thoracic and mediastinal disorders			
Aspiration subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Pleural effusion subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Pulmonary fibrosis subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Endocarditis subjects affected / exposed	1 / 43 (2.33%)	Additional description: Endocarditis infective	
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		

Infection			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Lower respiratory tract infection			
subjects affected / exposed	3 / 43 (6.98%)		
occurrences causally related to treatment / all	1 / 3		
deaths causally related to treatment / all	0 / 0		
Lung infection			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	2 / 3		
deaths causally related to treatment / all	0 / 1		
Neutropenic sepsis			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences causally related to treatment / all	2 / 2		
deaths causally related to treatment / all	0 / 0		
Parainfluenzae virus infection			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Sepsis			
subjects affected / exposed	5 / 43 (11.63%)		
occurrences causally related to treatment / all	8 / 8		
deaths causally related to treatment / all	0 / 1		
Skin infection			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Metabolism and nutrition disorders			
Tumour lysis syndrome			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 1		

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	Safety population		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	43 / 43 (100.00%)		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Adenocarcinoma of colon	Additional description: Adenocarcinoma of sigmoid colon unrelated to the trial treatment.		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences (all)	1		
Soft tissue mass	Additional description: Soft tissue paravertebral mass (necrotic tumor)		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences (all)	1		
Vascular disorders			
Thromboembolic event			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences (all)	2		
General disorders and administration site conditions			
Fatigue			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences (all)	1		
Fever			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences (all)	4		
Infusion related reaction			
subjects affected / exposed	2 / 43 (4.65%)		
occurrences (all)	2		
Malaise			
subjects affected / exposed	1 / 43 (2.33%)		
occurrences (all)	1		
Other	Additional description: Fever and diarrhoea - treated as neutropenic sepsis with antibiotics however was not septic.		
subjects affected / exposed	1 / 43 (2.33%)		
occurrences (all)	1		
Respiratory, thoracic and mediastinal disorders			

Bronchiectasis subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Aspiration subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Pleural effusion subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Psychiatric disorders Suicidal ideation subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Investigations Neutrophil count decreased subjects affected / exposed occurrences (all) Platelet count decreased subjects affected / exposed occurrences (all)	8 / 43 (18.60%) 10 2 / 43 (4.65%) 2		
Injury, poisoning and procedural complications Fracture subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Blood and lymphatic system disorders Febrile neutropenia subjects affected / exposed occurrences (all) Non-Febrile Neutropenia subjects affected / exposed occurrences (all) Anaemia subjects affected / exposed occurrences (all)	9 / 43 (20.93%) 14 1 / 43 (2.33%) 1 4 / 43 (9.30%) 5		
Gastrointestinal disorders			

Abdominal pain subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Anal pain subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Colonic perforation subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Lower gastrointestinal haemorrhage subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Gastrointestinal disorder subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Vomiting subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Skin and subcutaneous tissue disorders			
Rash subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Hyperhidrosis subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Rash maculo-papular subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Urticaria subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Renal and urinary disorders			
Cystitis noninfective subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Musculoskeletal and connective tissue disorders			

Pain in extremity subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		
Infections and infestations Infection subjects affected / exposed occurrences (all) Lower respiratory tract infection subjects affected / exposed occurrences (all) Parainfluenzae virus infection subjects affected / exposed occurrences (all) Anorectal infection subjects affected / exposed occurrences (all) Endocarditis subjects affected / exposed occurrences (all) Lung infection subjects affected / exposed occurrences (all) Sepsis subjects affected / exposed occurrences (all) Skin infection subjects affected / exposed occurrences (all) Tooth infection subjects affected / exposed occurrences (all)	3 / 43 (6.98%) 3 3 / 43 (6.98%) 3 1 / 43 (2.33%) 1 1 / 43 (2.33%) 1 1 / 43 (2.33%) 1 4 / 43 (9.30%) 4 4 / 43 (9.30%) 7 1 / 43 (2.33%) 1 1 / 43 (2.33%) 1		
Metabolism and nutrition disorders Hyponatraemia subjects affected / exposed occurrences (all)	1 / 43 (2.33%) 1		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
07 February 2011	Substantial Amendment 001: Addition of new sites – Kings College Hospital and UCLH
30 March 2011	Substantial Amendment 002: Addition of new site – Nottingham, Removal of existing site – Queen Elizabeth Hospital
13 June 2011	Substantial Amendment 003: PIS update
17 June 2011	Substantial Amendment 004: Addition of a new site – Queen Elizabeth Hospital, Birmingham
26 October 2011	Substantial Amendment 005: Addition of questionnaire booklets
24 April 2012	Substantial Amendment 006: Addition of a new site – Royal Marsden Hospital London
09 July 2012	Substantial Amendment 007: Change of drug distribution centre – from Aptuit to Catalent
30 April 2013	Substantial Amendment 008: PIS update
02 September 2013	Substantial Amendment 009: Protocol update: change to exclusion criteria, timing of assessments and SAE criteria.
22 January 2014	Substantial Amendment 010: Change of PI at Royal Bournemouth Hospital
16 July 2014	Substantial Amendment 011: PIS update
31 October 2014	Substantial Amendment 012: Protocol update: addition of list of adverse events, clarification of 'objective response', changes to contact information GP Letter update, IB update

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 data is not compared in a prospective randomized clinical trial. The small number of patients is one limitation, and unfortunately, only limited data of sufficient quality were available for a number of endpoints, meaning no formal analyses.

Notes:

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/27378086>