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Targeted radiotherapy delivered by an yttrium-90 radio-labelled Anti-CD66 monoclonal antibody with high dose melphalan compared to melphalan alone, prior to autologous stem cell transplantation for multiple myeloma

Submission date 30/03/2007	**Recruitment status** No longer recruiting	[ ] Prospectively registered [ ] Protocol
Registration date 22/05/2007	**Overall study status** Completed	[ ] Statistical analysis plan [ ] Results
Last Edited 25/01/2022	**Condition category** Cancer	[ ] Individual participant data [ ] Record updated in last year

Plain English summary of protocol
http://www.cancerhelp.org.uk/trials/a-trial-looking-at-having-a-radio-labelled-monoclonal-antibody-before-an-autologous-stem-cell-transplant-for-myeloma

Contact information

Type(s)
Scientific

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Additional identifiers

ClinicalTrials.gov (NCT)
NCT00637767

Protocol serial number
1

Study information

Scientific Title
A randomised phase II clinical trial using targeted radiotherapy delivered by an yttrium-90 radio-labelled Anti-CD66 monoclonal antibody with high dose melphalan compared to melphalan alone, prior to autologous stem cell transplantation for multiple myeloma

Acronym
Anti-CD66

Study objectives
To determine the efficacy of targeted radiotherapy delivered by an Yttrium-90 (90Y)-radio-labelled murine anti-CD66 monoclonal antibody, given in addition to high dose melphalan (200 mg/m^2) in terms of disease response (complete remission rate and change of serum free light chain level pre and post yttrium-90-radio-labelled anti-CD66) in patients undergoing haematopoietic stem cell transplantation (HSCT) for multiple myeloma.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Southampton and South West Hampshire Research Ethics Committee (A), 09/01/2007

Study design
Multicentre randomised non-blind phase II study

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Multiple myeloma

Interventions
There are two treatment arms comparing two transplant conditioning schedules prior to autologous stem cell rescue.

Arm A: high dose melphalan (200 mg/m^2) plus targeted radiotherapy:
Patients will undergo a dosimetry assessment by way of a Indium-111 radiolabelled anti-CD66 monoclonal antibody. This will be infused for 15 minutes. Two to four weeks later patients will

receive targeted radiotherapy with Yttrium-90 radiolabelled anti-CD66 monoclonal antibody infused for 15 minutes. Two weeks later patients will receive the standard pre-conditioning regimen of high dose melphalan (200 mg/m^2) prior to autologous stem cell transplantation.

Arm B: high dose melphalan (200 mg/m^2) alone:
No targeted radiotherapy.

All patients will be followed up for 12 months post-transplant.

Intervention Type
Drug

Phase
Phase II

Drug/device/biological/vaccine name(s)
Melphalan

Primary outcome(s)
Remission status pre- and post-transplantation, as defined for multiple myeloma by the European Blood and Marrow Transplantation (EBMT) organisation. Specifically the number of patients in each arm achieving CR as defined in the EBMT response criteria; remission status up to 12 months post transplant.

Key secondary outcome(s))
1. Disease response in both arms as determined from changes in serum free light chains (in those patients in whom serum free light chains are informative), up to 12 months post-transplant
2. Disease response excluding CR rates; proportion of patients with PR, stable disease (SD), progressive disease (PD), remission duration (time to disease progression), up to 12 months post-transplant
3. Engraftment quality as determined by time to recovery of peripheral blood neutrophils to greater than 0.5 x 10^9/l, platelets greater than 50 x 10^9/l and duration of recovery for greater than 180 days post-transplant, up to four weeks post-transplant
4. The treatment related mortality (TRM) and overall survival (OS) between the two arms, up to 12 months post-transplant
5. To determine the toxicity profile of 90Y-radiolabelled anti-CD66 MAb in the context of autologous stem cell transplantation, up to 12 months post-transplant
6. Pharmacokinetics of 111-in-radiolabelled anti-CD66 MAb as determined from serial blood samples, serial planar and single photon emission computed tomography (SPECT) gamma-camera imaging of selected organs, up to day five post-infusion
7. To continue to develop a dosimetry model based on SPECT and whole body gamma camera imaging, up to day post-dosimetry
8. To assess the proportion of patients that form human anti-murine antibodies (HAMA) following exposure to anti-CD66 MAb in the context of an autologous stem cell transplant, up to 12 months post-transplant

Completion date
17/12/2013

Eligibility

Key inclusion criteria

1. Histologically or cytologically proven multiple myeloma
2. In partial remission (PR) after chemotherapy and before priming therapy for stem cell mobilisation
3. Aged greater than 18 years
4. Life expectancy of at least 24 weeks
5. World Health Organization (WHO) performance status of less than two
6. Haematological and biochemical indices (these measurements must be performed within one week prior to the patient going on study):
6.1. Haemoglobin (Hb) greater than or equal to 9.0 g/dl
6.2. Neutrophils greater than or equal to 1.5 x 10^9/L
6.3. Platelets (Plts) greater than or equal to 50 x 10^9/L
7. Any of the following abnormal baseline liver function tests:
7.1. Serum bilirubin less than or equal to 1.5 x upper normal limit
7.2. Alanine amino-transferase (ALT) and/or aspartate amino-transferase (AST) less than or equal to 2.5 x Upper Limit of Normal (ULN)
8. The following abnormal baseline renal function test:
8.1. Calculated creatinine clearance greater than or equal to 50 ml/min (uncorrected value), or
8.2. Isotope clearance measurement greater than or equal to 50 ml/min
9. No concurrent or recent (within four weeks) chemotherapy for the underlying haematological condition (excluding cyclophosphamide priming for stem cell harvest). This does not include thalidomide which is permitted
10. Although the bone marrow (BM) remission status is not important, patients must have cellularity greater than 20%
11. Patients must have sufficient stem cells in cryo-storage for two transplant procedures, this is in case graft failure occurs as a result of therapy
12. Patients must be negative for human anti-mouse antibodies (HAMA)
13. Written informed consent and the ability of the patient to co-operate with treatment and follow up must be ensured and documented
14. Female patients of child-bearing potential are eligible, provided they have a negative serum pregnancy test prior to enrolment and agree to use medically approved contraceptive precautions for four weeks prior to entering the trial, during the trial and for six months afterwards
15. Male patients must agree to use appropriate medically approved contraception during the trial and for six months afterwards

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Total final enrolment
25

Key exclusion criteria
1. Radiotherapy (except for localised pain control), endocrine therapy, immunotherapy or chemotherapy during the previous four weeks
2. All toxic manifestations of previous treatment must have resolved. Exceptions to this are alopecia or certain Grade one toxicities which in the opinion of the Investigator should not exclude the patient.
3. Patients with BM cellularity less than 20%
4. Patients who test positive for HAMA
5. Previous high dose therapy and autologous stem cell transplant
6. Patients in complete remission (CR) after chemotherapy and prior to autologous peripheral blood stem cell transplantation (APBSCT)
7. Pregnant and lactating women are excluded
8. Major thoracic and/or abdominal surgery in the preceding three to four weeks from which the patient has not yet recovered
9. Patients who are high medical risks because of non-malignant systemic disease, as well as those with active uncontrolled infection
10. Patients with any other condition that, in the Investigators opinion, would not make the patient a good candidate for the clinical trial
11. Patients known to be serologically positive for hepatitis B, C or human immunodeficiency virus (HIV)
12. History of allergy, in particular a history of allergy to rodents or rodent proteins
13. History of eczema and/or asthma
14. Concurrent congestive heart failure or prior history of New York Heart Association (NYHA) class III/ IV cardiac disease
15. Patients unable to provide informed consent or who are unable to co-operate for reasons of poor mental or physical health
16. Less than 4 x 10^6 CD34 positive cells per kg body weight

Date of first enrolment
01/05/2007

Date of final enrolment
17/12/2013

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Southampton General Hospital
Southampton
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SO16 6YD

Sponsor information

Organisation
Southampton University Hospitals NHS Trust (UK)

ROR
https://ror.org/0485axj58

Funder(s)

Funder type
Charity

Funder Name
Leukaemia Research Fund (UK)

Results and Publications

Individual participant data (IPD) sharing plan
The data sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Plain English results		10/12/2015	25/01/2022	No	Yes