

# 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

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		<input type="checkbox"/> Protocol
<b>Registration date</b> 22/05/2007	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 25/01/2022	<b>Condition category</b> Cancer	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> 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<sup>2</sup>) 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<sup>2</sup>) 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<sup>2</sup>) prior to autologous stem cell transplantation.

Arm B: high dose melphalan (200 mg/m<sup>2</sup>) 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  $0.5 \times 10^9/l$ , platelets greater than  $50 \times 10^9/l$  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 <sup>90</sup>Y-radiolabelled anti-CD66 MAb in the context of autologous stem cell transplantation, up to 12 months post-transplant
6. Pharmacokinetics of <sup>111</sup>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  $1.5 \times 10^9/L$
  - 6.3. Platelets (Plts) greater than or equal to  $50 \times 10^9/L$
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  $4 \times 10^6$  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

United Kingdom

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# 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?
<a href="#">Plain English results</a>		10/12/2015	25/01/2022	No	Yes