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The MM5 trial: evaluation of two regimens of bortezomib-based induction therapy and of lenalidomide consolidation followed by lenalidomide maintenance treatment in patients with multiple myeloma

Submission date
16/04/2010

Recruitment status
No longer recruiting

Registration date
27/04/2010

Overall study status
Completed

Last Edited
10/02/2020

Condition category
Cancer

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
MM5

Study information

Scientific Title
Randomised phase III trial for previously untreated multiple myeloma to evaluate two regimens of bortezomib based induction therapy and lenalidomide consolidation followed by lenalidomide maintenance treatment

Acronym
MM5

Study objectives
The MM5 trial is designed to address two independent primary objectives. The primary objectives of the study are:
1. Demonstration of non-inferiority of VCD (bortezomib, cyclophosphamide, dexamethasone) induction therapy compared to PAd (bortezomib, adriamycin, dexamethasone) induction therapy with respect to response rate (very good partial remission or better; response criteria of the International Myeloma Working Group [IMWG])
2. Determination of the best of four treatment strategies with respect to progression-free survival (PFS). The four treatment strategies are defined by PAd versus VCD induction treatment, standard intensification therapy, lenalidomide consolidation and maintenance treatment with lenalidomide for 2 years versus lenalidomide until complete response (CR).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethikkommission der Medizinischen Fakultaet Heidelberg, University of Heidelberg, pending as of 16/04/2010

Study design
Prospective multicentre multinational randomised parallel group open phase III clinical trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

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

Interventions
Patients are randomised into four treatment arms (A1, A2, B1, B2).

Patients included in arms A1/B1 are treated with 3 cycles PAd (bortezomib 1.3 mg/m^2 intravenous [iv] on days 1, 4, 8 and 11, doxorubicin 9 mg/m^2 iv on days 1 - 4, dexamethasone [Dex] orally [po] 20 mg/d on days 1 - 4, 9 - 12 and 17 - 20).

Patients in arm A2/B2 are treated with 3 cycles VCD (bortezomib 1.3 mg/m^2 iv on days 1, 4, 8 and 11, cyclophosphamide 900 mg/m^2 iv on day 1, dexamethasone po 40 mg/d on days 1 - 2, 4 - 5, 8 - 9, 11 - 12).

Standard intensification treatment will be done according to local protocols.

Thereafter, two cycles of lenalidomide 25 mg/d on days 1 - 21 are given, followed by a lenalidomide maintenance treatment (lenalidomide orally [po] 10 mg/d in the first three months, thereafter 15 mg/d). In arms A1 and A2 lenalidomide maintenance will be given for a period of 2 years, in arms B1 and B2 until a CR is reached.

Intervention Type
Drug

Phase
Phase III

Drug/device/biological/vaccine name(s)
VCD (bortezomib, cyclophosphamide, dexamethasone), PAd (bortezomib, adriamycin, dexamethasone)

Primary outcome measure
1. Response to treatment (very good partial remission or better) after induction therapy, measured after induction therapy
2. Progression-free survival (i.e., time from randomisation to progression or death from any cause whichever occurs first), measured at several timepoints during study and follow up if there is a progression of the disease

Secondary outcome measures
1. Overall survival defined as time from randomisation to death from any cause. Patients still alive or lost to follow up are censored at the date they were last known to be alive.
2. Response rates (response rates will be assessed using the following subcategories: SD, MR, PR, VGPR [with subgroup nCR], CR, sCR, mCR). Response measured after induction, after intensification, after consolidation and during maintenance.
3. Toxicity ([serious] adverse events CTC grade 3 and grade 4, CTC-AE v4.0), measured at induction, consolidation and maintenance treatment

Overall study start date
01/10/2008

Completion date
11/03/2017

Eligibility

Key inclusion criteria
1. Confirmed diagnosis of multiple myeloma requiring systemic therapy
2. Measurable disease
3. Aged 18 - 70 years inclusive, either sex

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Sex
Both

Target number of participants
504

Key exclusion criteria
1. Previous chemotherapy or radiotherapy during the past 5 years except local radiotherapy in case of local myeloma progression
2. Severe cardiac dysfunction
3. Significant hepatic dysfunction
4. Patients known to be human immunodeficiency virus (HIV)-positive
5. Patients with active, uncontrolled infections
6. Patients with peripheral neuropathy or neuropathic pain, Common Toxicity Criteria (CTC) grade 2 or higher
7. Patients with a history of active malignancy during the past 5 years
8. Systemic amyloid light chain (AL) amyloidosis
9. Pregnancy and lactation

Date of first enrolment
26/07/2010

Date of final enrolment
14/11/2013

Locations

Countries of recruitment
France

Germany

Study participating centre
Universitätsklinikum Heidelberg
Heidelberg
Germany
69120

Sponsor information

Organisation
University Hospital Heidelberg (Universitätsklinikum Heidelberg) (Germany)

Sponsor details
Im Neuenheimer Feld 672
Heidelberg
Germany
69120

Sponsor type
Hospital/treatment centre

Website
http://www.med.uni-heidelberg.de/

ROR
https://ror.org/013czdx64

Funder(s)

Funder type
Industry

Funder Name
Celgene (Europe)

Alternative Name(s)
Celgene Corporation

Funding Body Type
Private sector organisation

Funding Body Subtype

For-profit companies (industry)

Location
United States of America

Funder Name
Janssen Cilag (Europe)

Funder Name
Chugai (Germany)

Funder Name
The Binding Site (Germany)

Funder Name
University Hospital Heidelberg (Universitätsklinikum Heidelberg) (Germany)

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/08/2015	29/01/2019	Yes	No
Results article	results	01/07/2020	10/02/2020	Yes	No