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Efficacy and safety phase IIa study of myelo001 in chemotherapy-Induced neutropenia (MyeloConcept)

Submission date
13/07/2016

Recruitment status
No longer recruiting

Registration date
26/07/2016

Overall study status
Completed

Last Edited
17/04/2019

Condition category
Cancer

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

Plain English summary of protocol

Background and study aims
In cancer chemotherapy, the most serious hematologic toxicity (problem with the blood)is neutropenia, a fall in the number of a particular type of white blood cell (WBC) essential for the body's immune response. Neutropenia often limit how big a dose a patient can receive and for how long they can tolerate chemotherapy. The degree and duration of neutropenia determine the risk of infection. Myelo001, a small molecule that is administered as a tablet, has been shown in chemotherapy- or radiotherapy-induced myelosuppression (decrease in the production of cells responsible for immunity) to stimulate differentiation (production) of peripheral white blood cells (WBC) and bone marrow cells. The purpose of the MyeloConcept study is to determine the safety and effectiveness of Myelo001 in preventing or reducing chemotherapy-induced neutropenia and myelosuppression in patients receiving chemotherapy due to breast cancer.

Who can participate?
Women aged >17 years diagnosed with with invasive breast cancer scheduled for chemotherapy treatment with epirubicin / cyclophosphamide.

What does the study involve?
As a basic treatment, all patients are given the epirubicin / cyclophosphamide standard chemotherapy scheduled by the treating physician. All participants are otherwise randomly allocated into one of two groups. Patients in group 1 are given Myelo001 once a day for up to 28 days as well as the chemotherapy treatment. Those in group 2 are given a placebo once a day for 28 days as well as the chemotherapy. All patients fill out diaries every day to report how they are. Changes in the patients' blood count, clinical parameters (for example, symptoms and physiological changes) , as well as safety lab parameters are monitored frequently throughout the study. In a subsequent observational part of the study, blood counts, clinical parameters, and safety lab parameters are analyzed once the patients have stopped taking the study medication . This is to see the effects that may occur after the medication has been stopped and takes place

during the second chemotherapy cycle up to the start of the third chemotherapy cycle. Some patients also agree to have blood samples taken for pharmacokinetic analyses (looking at how the study drug is handled in the human body).

What are the possible benefits and risks of participating?
Patients randomized into the Myelo001 group may benefit from increased white blood cells during chemotherapy treatment. This would support the patient's immune system during chemotherapy resulting in less infections. The rate of hospitalization due to severe infections might be reduced. However, as the effect of Myelo001 is still under investigation this effect cannot be ensured.
Patients randomized into the placebo group still receive the standard epirubicin / cyclophosphamide chemotherapy that has been decided for by the respective physician as the most suitable basic treatment. There will be no immediate direct benefit to those patients being randomized into the placebo group. However, results of the placebo group are substantial to evaluate overall study results. Thus, future chemotherapy patients might benefit from those results. Regardless of the group assignment, all patients might benefit from the intensive medical monitoring during the study conduct. In general, Myelo001 is well tolerated and no serious side effects have been reported. In rare cases, skin rash or allergic reactions were observed.

Where is the study run from?
The study is conducted in approximately 25 sites in Germany.

When is study starting and how long is it expected to run for?
November 2015 to June 2017

Who is funding the study?
Myelo Therapeutics GmbH (Germany)

Who is the main contact?
Dirk Pleimes, MD
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Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
2015-003610-25

ClinicalTrials.gov (NCT)
NCT02692742

Protocol serial number
CT-MT001-2-2015-1

Study information

Scientific Title
A randomised, double-blind, placebo-controlled, parallel-design, multi-center study to investigate the efficacy to reduce chemotherapy-induced neutropenia (CIN), effects on the haematopoietic system, safety and pharmacokinetics of myelo001 in patients receiving adjuvant or neoadjuvant chemotherapy for the treatment of breast cancer

Acronym
MyeloConcept

Study objectives
The study aims to prove the concept that Myelo001 is effective in reducing chemotherapy-induced neutropenia and myelosuppression.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics Committee of the State Medical Chamber of Baden-Württemberg (Ethik-Kommission der Landesärztekammer Baden-Württemberg), 12/09/2015

Study design
Randomised double-blind, placebo-controlled, parallel-design, multi-center study

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Chemotherapy-Induced Neutropenia
Myelosuppression
Breast Cancer

Interventions
Participants are randomly allocated to one of two arms:
1. Experimental arm: Myelo001 (Myelo001 100 mg QD)
Intervention: Intake of study drug once daily for a maximum of 28 days in addition to Epirubicin and Cyclophosphamide treatment

2. Placebo Comparator Arm: Placebo (Matching Placebo QD)
Intervention: Intake of placebo once daily for a maximum of 28 days in addition to Epirubicin and Cyclophosphamide treatment

The study comprises:
1. Screening phase up to 23 days
2. Interventional study period d-5/c1A to d22/c1 or last day of IMP (investigational medicinal product) application, whichever occurs later. During this period, IMP will be administered accompanied by frequent study visits.
3. Observational study period starts on d1/c2 with the application of the second chemotherapy cycle and ends on d1/c3 (EOS).

Patients will be monitored until all study medication-related adverse effects have been resolved or returned to baseline/grade 1.

Intervention Type
Drug

Phase
Phase II

Drug/device/biological/vaccine name(s)
Myelo001

Primary outcome(s)
Change of Threshold Area over the Curve of Absolute Neutrophil Count (ANC): specified by the threshold line defining grade 1 neutropenia and the individual ANC trajectory

Key secondary outcome(s))
1. Change of Threshold Area over the Curve of Absolute Neutrophil Count (ANC): specified by the threshold line defining grade 3 neutropenia and the individual ANC trajectory
2. Treatment success rate:
2.1. Neutropenia grade ≤2
2.2. No need for G-CSF rescue therapy
2.3. No early withdrawal (drop-out)
3. Change of Threshold Area over the Curve of lymphocytes
4. Change of Threshold Area over the Curve of leukocytes
5. Change of Threshold Area over the Curve of thrombocytes
6. Rate of neutropenia grade 1 and higher; 3 and higher
7. Duration of neutropenia grade 1 and higher; 3 and higher
8. Rate of patients requiring rescue therapy
9. Rate of patients developing febrile neutropenia
10. Rate of patients with chemotherapy dose reduction and/or delay of chemotherapy cycle

Completion date
30/06/2017

Eligibility

Key inclusion criteria

1. Female patient of any racial origin having fulfilled her 18th birthday on Visit 1 (screening)
2. Histologically confirmed invasive breast cancer scheduled for neoadjuvant or adjuvant chemotherapy (patient with primary wound healing ([R0])
3. Already selected for neoadjuvant or adjuvant standard of care EC regimen (Epirubicin 90 mg /m2 BSA (body surface area) + Cyclophosphamide 600 mg/m2 BSA q21d (every 21 days)) (with or without treatment with taxanes afterwards)
4. Risk of chemotherapy-induced Febrile Neutropenia ≤20% according to ASCO Guidelines (2015)
5. More than 5 days remaining before the planned initiation of the 1st chemotherapy cycle
6. Performance status Grade 0-1 (ECOG)
7. Echocardiography: No contraindication for the scheduled chemotherapy
8. Haematologic, laboratory and chemistry thresholds at baseline:
8.1. Absolute neutrophil count (ANC) ≥2,000 cells/ mm3 (≥2.0 x 10/L)
8.2. Platelet count ≥100,000/mm3 (≥100 x 10exp9/L)
8.3. Haemoglobin ≥10 g/dL
8.4. Total bilirubin <1.5 x, AST, ALT <2.5 x upper limit of normal (ULN)
8.5. Serum creatinine <2.0 mg/dL
9. Able to read, understand and willing to sign the informed consent form
10. Able to undergo the investigations and to follow the Visit schedule

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
Female

Total final enrolment
137

Key exclusion criteria
1. Suspected allergy to Myelo001 or its excipients
2. Prior chemotherapy
3. Prior or concomitant treatment with radiotherapy
4. Currently on or scheduled for other immunomodulatory or immunosuppressive therapies (e.g. TNF inhibitors) during the first chemotherapy cycle
5. Currently on or scheduled for other immunostimulatory or hematopoietic active therapies (e.g. G-CSF, GM-CSF)
6. Currently on or scheduled for primary prophylaxis with antibiotics in the first chemotherapy cycle
7. History of bone marrow transplantation or stem cell transplant
8. Administration of another investigational medicinal product / medical device within 30 days prior to screening. Participation in non-interventional, national or international cancer registries

is allowed.
9. Already confirmed HIV, hepatitis B or C virus (HBV or HCV) infection
10. History of somatic disease/condition that may interfere with the objectives of the study
11. Any other medical disease or clinical laboratory parameter outside the normal range and of clinical significance according to the investigator
12. Serious uncontrolled comorbidities
13. Pregnant or breast-feeding subject
14. Woman considered to be of childbearing potential who do not use highly effective birth control methods during the study.

Date of first enrolment
23/03/2016

Date of final enrolment
31/01/2017

Locations

Countries of recruitment
Germany

Study participating centre
Myelo Therapeutics GmbH
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10119

Sponsor information

Organisation
Myelo Therapeutics GmbH

ROR
https://ror.org/05h2pj652

Funder(s)

Funder type
Industry

Funder Name

Myelo Therapeutics GmbH

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Basic results				No	No