Preventative/Preemptive Adoptive Transfer of Peptide Stimulated CMV/EBV Specific T-cells in Patients After Allogeneic Stem Cell Transplantation

ClinicalTrials.gov Identifier: NCT02227641

Recruitment Status: Unknown
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Sponsor:
University of Erlangen-Nürnberg Medical School

Collaborators:
Ludwig-Maximilians - University of Munich
University of Regensburg
Johannes Gutenberg University Mainz
Charite University, Berlin, Germany
Klinikum Augsburg
BayImmuNet Bavarian Immunotherapy Network
German Research Foundation

Information provided by (Responsible Party):
University of Erlangen-Nürnberg Medical School

Study Description

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Brief Summary:

In patients after allogeneic stem cell transplantation reactivation of latent herpesviruses such as Cytomegalovirus (CMV) and Epstein Barr Virus (EBV) is a frequent and life threatening complication requiring antiviral treatment. The underlying problem is a severe suppression of the donors immune system after transplantation into the patient. Herpesviruses such as CMV and EBV persist after primary infection life long in the host and therefore require constant immunological control. This control is largely provided by the T-cell compartment of the immune system. After allogeneic stem cell transplantation the T-cell compartment requires a long time for its reconstitution since only a small fraction of the donor T-cells are transplanted. During this time Herpesviruses can reoccur due to the lack of effective T-cell control.

This study therefore aims at reconstituting the T-cell compartment with CMV and EBV specific T-cells at an early time point after allogeneic stem cell transplantation. It is mainly a phase I study to demonstrate that these in vitro

generated T-cells can be applied safely in this patient population. The study also aims at demonstrating the efficacy of CMV/EBV specific T-cells by monitoring viral reactivation and use of antiviral drugs. The hypothesis is, that CMV/EBV specific T-cell can be applied safely and do not result in graft versus host disease and that they successfully prevent reactivation of CMV and EBV after adoptive transfer in patients after allogeneic stem cell transplantation.

Condition or disease	Intervention/treatment	Phase
Patients Undergoing Allogeneic Stem Cell Transplantation	Biological: CMV/EBV specific T-cell	Phase 1 Phase 2

Study Design

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Study Type: Interventional (Clinical Trial)
Estimated Enrollment: 50 participants
Allocation: Randomized
Intervention Model: Factorial Assignment
Masking: None (Open Label)
Primary Purpose: Prevention
Official Title: Prospective, Open, Randomized, Two-arm, Controlled, Multicenter Clinical Phase I/IIa Trial to Evaluate the Safety and Efficacy of Adoptive Immunotherapy With Allogeneic CMV/EBV Specific, Peptide Stimulated T-cells (CD3+) for Prevention or Preemptive Therapy of Reactivation of CMV and/or EBV in Patients After Allogeneic, HLA Identical Stem Cell Transplantation
Study Start Date: October 2014
Estimated Primary Completion Date: October 2016
Estimated Study Completion Date: March 2017

Arms and Interventions

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Arm	Intervention/treatment
Experimental: Adoptive transfer of CMV/EBV specific T-cells Repetitive adoptive T-cell transfer starting at day 30 after allogeneic stem cell transplantation.	Biological: CMV/EBV specific T-cell Peptide stimulated allogeneic T-cells with dual specificity for CMV and EBV Other Name: T cell
No Intervention: Control Observation only.	

Outcome Measures

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Primary Outcome Measures:

1. Toxicity of adoptive transfer of CMV/EBV specific T-cells [Time Frame: 1-28 days after adoptive T-cell transfer]

   Assessment of acute transfusion toxicity within 24 hours after adoptive T-cell transfer.

   Assessment of the development of acute transfusion associated acute graft versus host disease (GvHD) within 28 days after adoptive T-cell transfer

Secondary Outcome Measures :

1. Influence of preventative/preemptive adoptive transfer of CMV/EBV specific T-cells on virus reactivation [Time Frame: During observation period until day 204 post transplantation]

   Incidence of reactivation of CMV and/or EBV during the observation period assessed by virus specific PCR of peripheral blood.

2. Influence of preventative/preemptive adoptive transfer of CMV/EBV specific T-cells on the use of antiviral therapy [Time Frame: During observation period until day 204 post transplantation]

   Cumulative dose of Ganciclovir, Valganciclovir, Foscarnet, Cidofovir

3. Influence of preventative/preemptive adoptive transfer of CMV/EBV specific T-cells on the use of Rituximab [Time Frame: During observation period until day 204 post transplantation]

   Cumulative dose of Rituximab.

4. Influence of preventative/preemptive adoptive transfer of CMV/EBV specific T-cells on T-cell reconstitution [Time Frame: During observation period until day 204 post transplantation]

   Immunomonitoring of peripheral blood by flow cytometry.

Eligibility Criteria

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Information from the National Library of Medicine

Choosing to participate in a study is an important personal decision. Talk with your doctor and family members or friends about deciding to join a study. To learn more about this study, you or your doctor may contact the study research staff using the contacts provided below. For general information, Learn About Clinical Studies.

Ages Eligible for Study:	18 Years to 75 Years (Adult, Older Adult)
Sexes Eligible for Study:	All
Accepts Healthy Volunteers:	No

Criteria

Inclusion Criteria:

- Indication for allogeneic stem cell transplantation
- HLA identical donor, related or unrelated, 10/10 match
- Stem cell source: G-SCF mobilized peripheral blood stem cells
- Presence of at least one HLA allele: A0101, A0201, B0702, B0801, B3501, C0702
- Positive EBV serology of the donor
- Positive CMV serology of the donor
- Adequate contraception

Exclusion Criteria:

- Donor CMV seronegative
- Donor EBV seronegative
- Stem cell source: bone marrow or cord blood
- Alemtuzumab for conditioning
- Sorror Score >3
- Pregnancy

Contacts and Locations

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Please refer to this study by its ClinicalTrials.gov identifier (NCT number): ***NCT02227641***

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Sponsors and Collaborators

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More Information

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Principal Investigator´s Site EXIT

Responsible Party:	University of Erlangen-Nürnberg Medical School
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